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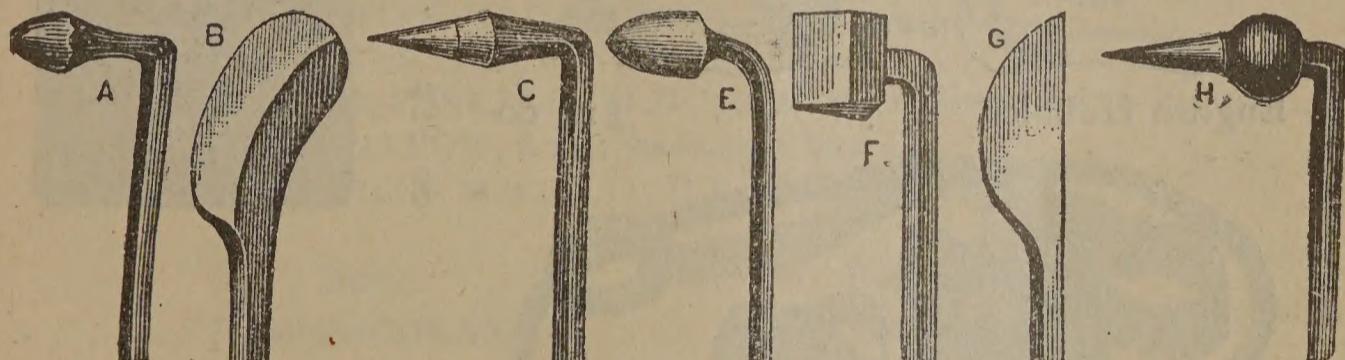
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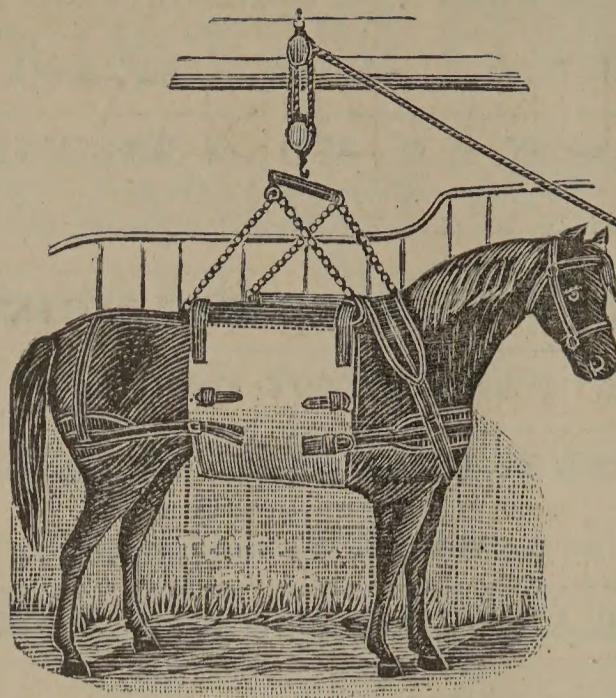
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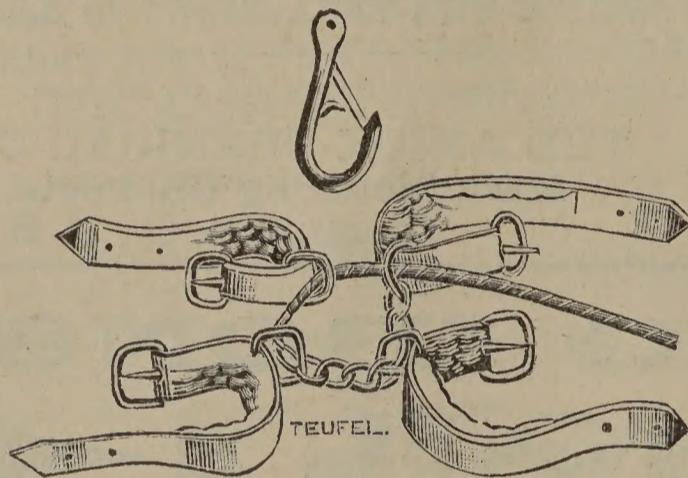
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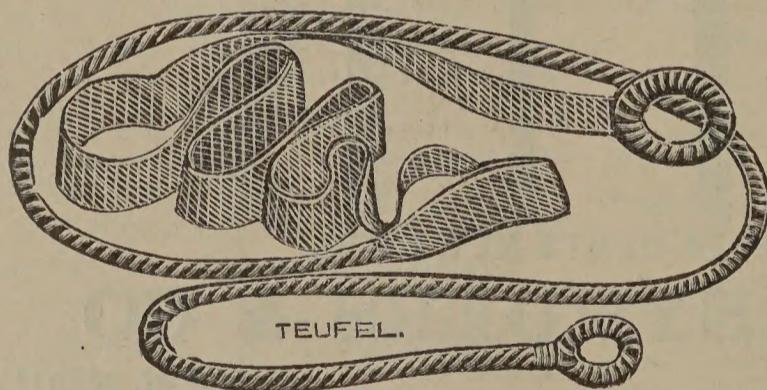
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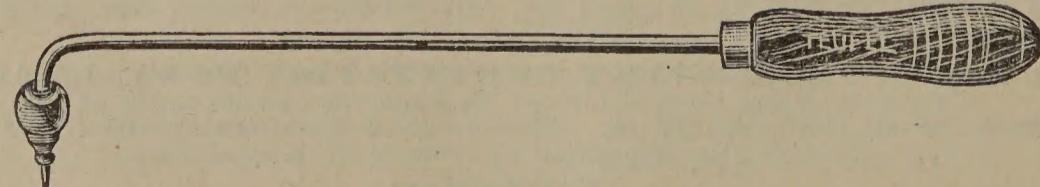
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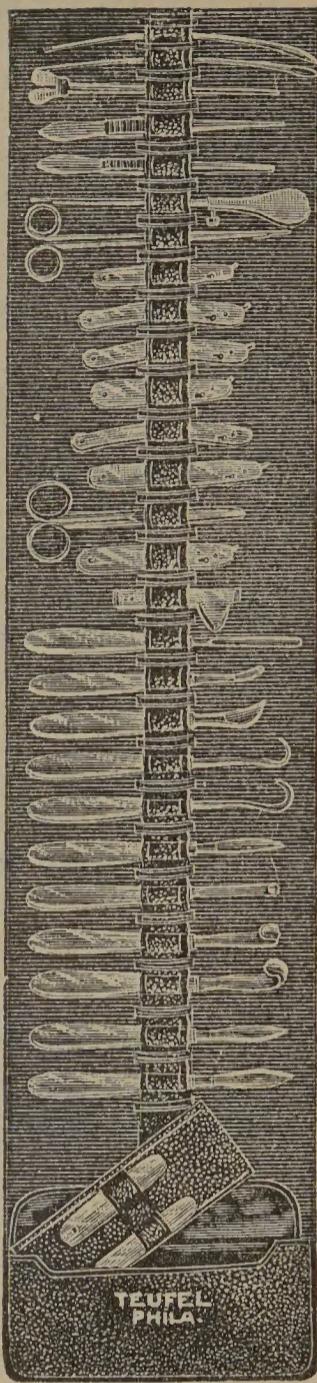
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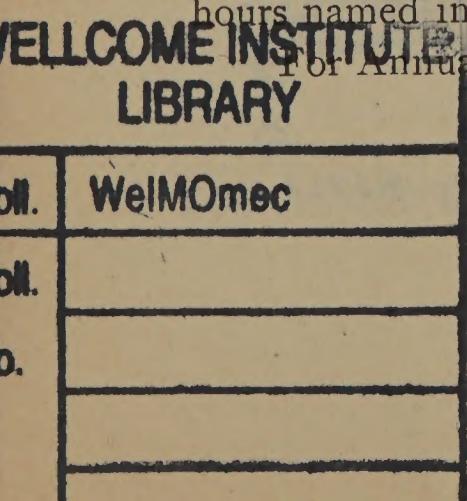
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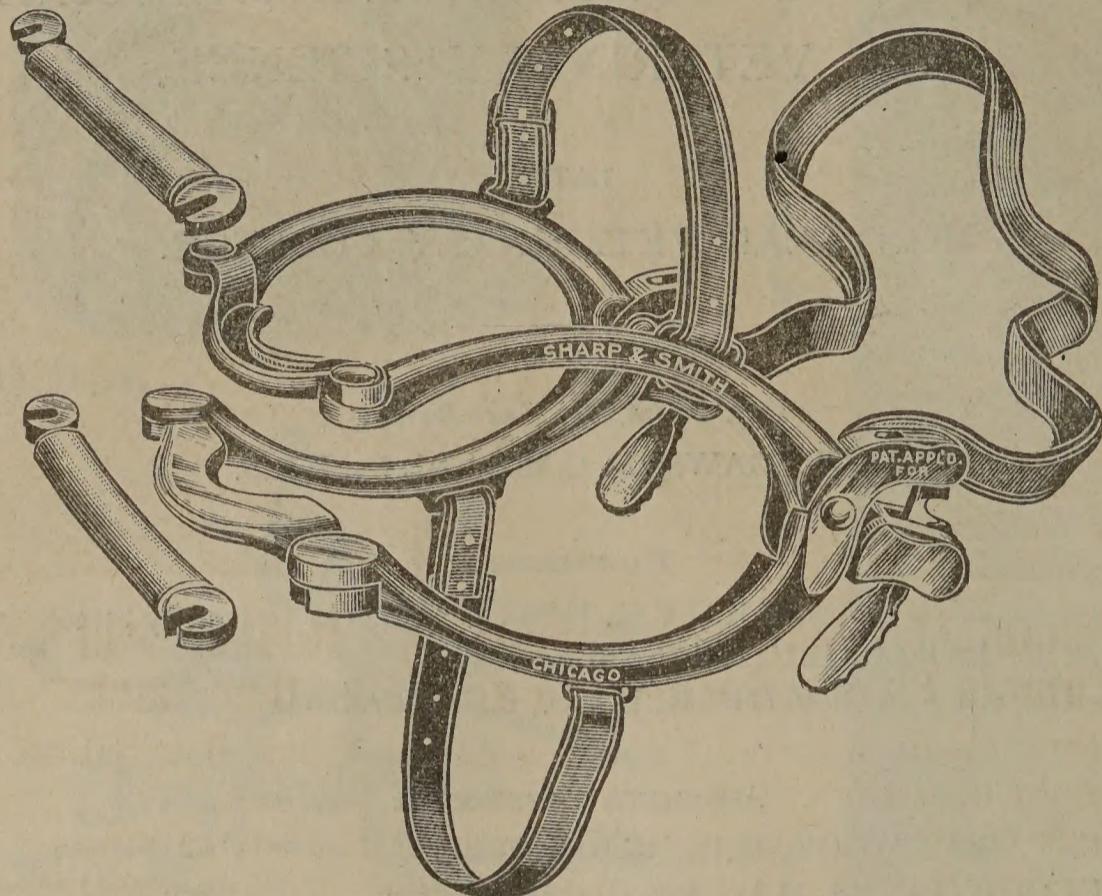
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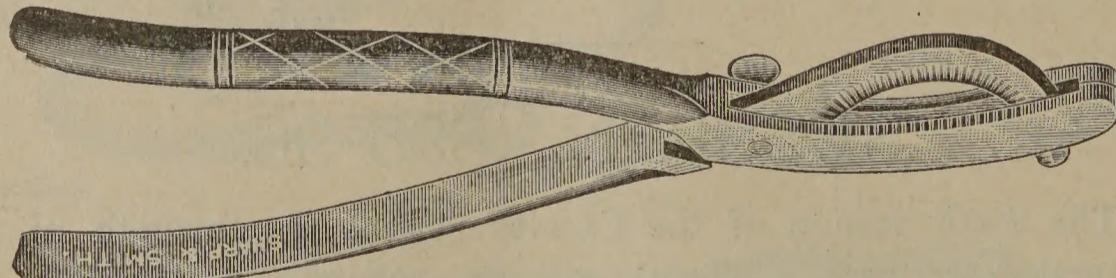
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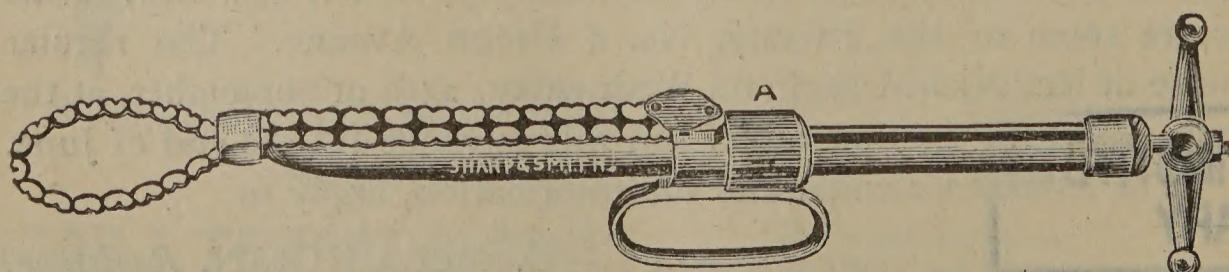


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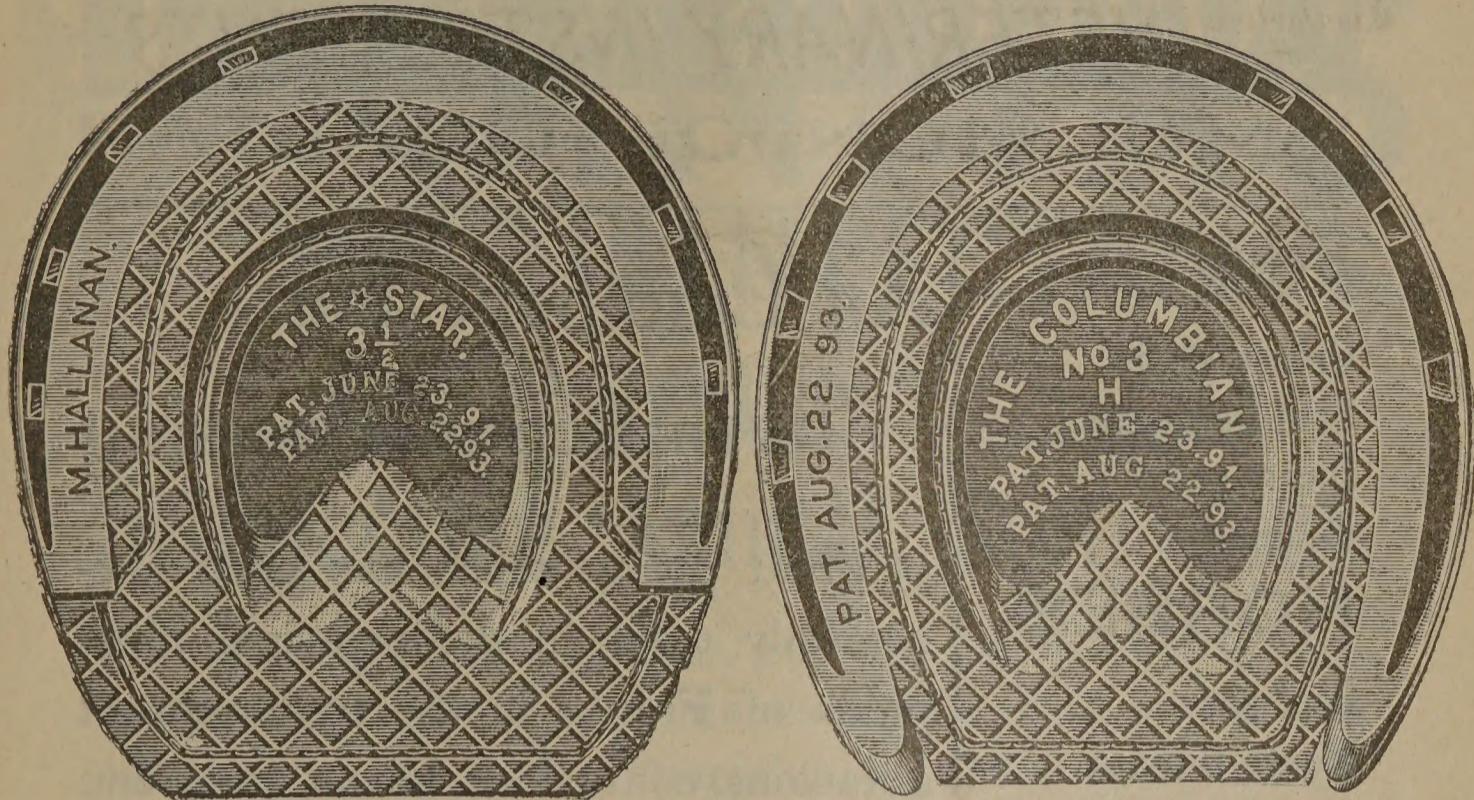


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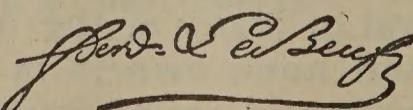
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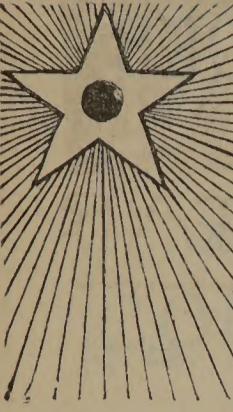
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THE JOURNAL
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VOL. XVI.

JULY, 1895.

No. 7.

NEW YORK COLLEGE OF VETERINARY
SURGEONS.

UNDER the title of Chapter 269, "An Act for the incorporation of the New York College of Veterinary Surgeons" was passed and signed at Albany on April 6, 1857, establishing a board of nine incorporators, who were intrusted with the organization of a veterinary school, with the right to hold property not to exceed one hundred thousand dollars, and which was to be conducted solely in trust, for the gain of no individual, and all funds or property to be used for promoting medical science and instruction.

No active steps were taken in the development of the college for several years, when, in 1862, further legislation was obtained. Chapter 346, an Act to amend Chapter 269, was passed, adding fourteen trustees, making twenty-three in all.

In September, 1862, a meeting of the trustees was called, at which E. G. Rawson, Esq., was appointed temporary chairman, and Charles H. Birney, Esq., was elected the first president. Dr. John Busteed was elected professor of anatomy and surgery, president of the faculty, and corresponding secretary of the corporation. A month later one of the trustees resigned, and Dr. Busteed was elected a trustee in his place. Regular meetings were held twice a month, for the purpose of raising funds. But that period, of war time, was not a favorable one for obtaining generous gifts for any ordinary purpose.

In May, 1863, Drs. Rawson, Busteed, and Alfred Roe, Esq., of the trustees, were appointed a committee to attend the

veterinary meeting in Philadelphia, which was the origin of the organization of the United States Veterinary Medical Association.

During the next year subscriptions gradually accumulated, and on October 31, 1864, the infirmary of Dr. Liautard, 179 Lexington Avenue, was selected as the site for the college, and was purchased from him.

Two interesting paragraphs occurred in the papers and arrangements for taking possession of the property, showing the local condition of money and commerce at the time. The first, a reference in the lease to gold and the great fluctuating value of all money; the second, that the trustees should purchase the food for the winter at once in large quantities, as an economy, on account of the approaching cold and close of navigation, all freight being then brought to New York by canal-boats.

On November 23d, 1864, the college was declared ready for the reception of patients and for clinical instruction. Dr. Liautard was appointed superintendent of the hospital. In March, 1865, Dr. Busteed presented to the trustees a copy for the first announcement for the regular course of lectures, which was approved. On October 4, 1865, Augustus Whitlock, Esq., was elected president of the trustees.

The college opened on November 6th with the following faculty; the members, however, appear to have assumed their duties without regular appointment: Anatomy and operative surgery, A. F. Liautard, M.D., V.S.; physiology and surgical pathology, A. Large, M.D., M.R.C.V.S.; pathology of the horse and other domestic animals, A. S. Copeman, V.S.; *materia medica* and therapeutics, J. Busteed, M.D.; organic chemistry and practical use of the microscope, A. S. Copeman, V.S.; clinical instruction, Drs. Liautard, Large, and Copeman.

In January, 1866, the use of the lecture-room of the college was granted to the New York Veterinary Society for its meetings.

In May, President Whitlock died, and Charles H. Birney was elected to fill the chair for the remainder of the year, until the regular election, when in September Eben Mason was elected president. In March, 1867, Dr. Busteed handed in his resignation as professor of anatomy and surgery, which was accepted, and he was appointed emeritus professor of the same chair. Dr. Liautard, who had been giving the lectures upon anatomy and surgery, was appointed professor of that chair, and Dr.

Large was appointed to the chair of physiology and pathology, which had been in his charge since the opening of instruction. It was resolved that the first diploma of V.S. should be conferred upon Dr. Busteed.

The following November, Henry Bergh, the president of the Society for the Prevention of Cruelty to Animals, was elected a trustee. At about this period there was some attempt made to subvert the purpose of the school from veterinary instruction to that of a school of human medicine, which, however, did not succeed.

An active attempt was made by the trustees of the college at this time to obtain recognition by the United States Government and to ameliorate the condition and status of the veterinary surgeons in the army. A petition was prepared and sent to General Grant, asking his approval, in order that it should be submitted to Congress. But it received no further attention than an unfavorable reply.

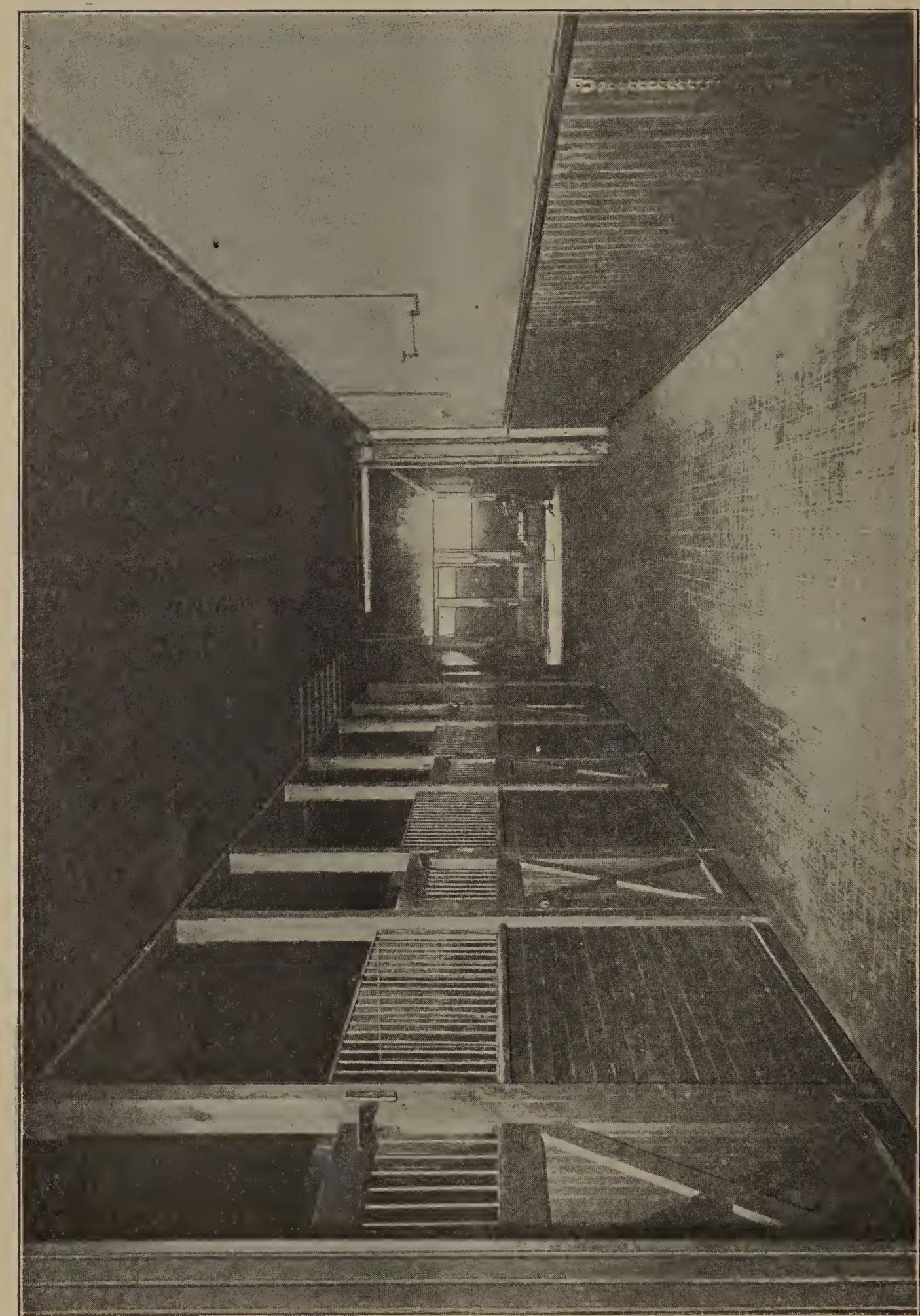
In February, 1868, the trustees of the college prepared and gave a reception to Dr. Gamgee, president of the Albert Veterinary College, London. He had been sent to the United States to investigate cattle diseases.

In September, 1868, William Palen, Esq., was appointed president. In October, 1870, Alexander J. Cotheal was elected president, and Dr. James L. Robertson, one of the first graduates of the New York College of Veterinary Surgeons, and Dr. F. L. Satterlee were appointed lecturers in the college.

During the next few years the New York College of Veterinary Surgeons ran a quiet existence, gradually increasing in the number of its students and in the size of the clinic and its hospital, but did not make any marked headway.

Internal disturbances arose between Dr. John Busteed, representing both the trustees and as president of the faculty, and other members of the trustees and faculty. There seems not to have been a perfect accord with either body, and some bitter charges and counter-charges appear to have taken place between the trustees and the faculty. On February 10th, 1875, Dr. John Busteed was elected president of the board of trustees. The trouble of the last few years assumed more definite shape, and Court injunctions were obtained, interfering with the action of the board.

On March 10, 1875, an almost wholesale resignation of the faculty was sent in, signed by Drs. Liautard, Weisse, Stein,



HOSPITAL.

Robertson, and Satterlee. The dissensions seem to have grown more bitter during this year, and no lectures were given during the following session.

On October 6, 1875, Dr. A. J. Cotheal was elected president. In the spring following, April 10, 1876, Dr. John Busteed died, and at the December meeting it was decided to sell the college buildings.

On June 7, 1877, E. G. Rawson, A.M., M.D., was elected president of the college faculty, which was then reorganized as follows: Professor of general and comparative anatomy, D. C. Comstock, M.D.; professor of physiology and chemistry, Thomas M. Hawkins, M.D.; professor of materia medica and therapeutics, E. S. Bates, M.D.; professor of theory and practice, R. S. Finley, M.D.; professor of surgery and surgical pathology, J. A. Going, M.R.C.V.S.; professor of obstetrics, Thomas H. Skinner, M.D.

On September 18, 1878, Dr. William T. White was elected a member of the Board of Trustees; at the following meeting he was elected member of the medical committee, and on February 6, 1879, John M. Guiteau, Esq., was elected a trustee, both of whom proved to be valuable members of the board, both in the direct interest which they took in the college and in their constant care in the protection of its privileges.

On September 19, 1883, Dr. W. T. White, was elected president of the board of trustees, to the interest of which office he was devoted until the time of his death, in 1894.

In 1880 Dr. White purchased a two-story building at 332 East Twenty-seventh Street. He added another story and made extensive alterations to adapt it for the uses of the college. This building he fitted with furniture and the necessary apparatus, and had it prepared for use by October, 1880. He rented this building to the New York College of Veterinary Surgeons.

The college then moved into its new building, 332 East Twenty-seventh Street, and became much more active in its work. It was carried on in this location for the next half-dozen years, making steady growth in the proportion of its museums and the numbers of its students.

On September 17, 1894, Dr. William T. White died, just as he had reached the point which looked to the great improvement of the college. At the November meeting of the same year Dr. Herman M. Biggs was elected a trustee, and at the February meeting, 1895, he was elected president of the board.

As the new president recognized the entire inadequacy of the present building, steps were taken immediately looking toward an improvement. The property in the rear was purchased and a beginning was made in the necessary changes; but it was soon found that the very considerable expenditures necessary would give at best only an unsatisfactory building in a yet more unsatisfactory site. The neighborhood was poor in itself, as it had become too far removed from the centre of the city, which had gradually grown northward and was inaccessible to that class of practice which the hospital and school should expect.

After a considerable search a building at 154 East Fifty-seventh Street was found, and it was apparent, immediately, that no amount of search would be likely to result in the choice of a site more admirably adapted for the necessities of school and hospital. A central location, a wide and frequented street, a good public neighborhood, were all won by the school by the move.

The building is a five-story brick with an "L" at the rear. The first effort was to secure the most thorough sanitation of the building; next to study the convenience of every part. The two lower floors are asphalted and devoted to the hospital for horses; new box and open stalls were constructed upon the most approved plans, and these are equipped with the latest approved stable furniture. Above the hospital are placed the offices, pharmacy, chemical laboratory, lecture and reading-rooms; up another flight are placed the museum and histological and bacteriological laboratories, and an abundant space is devoted to the dissecting-room; finally, the top floor is given up to a dog hospital, which is especially fortunate in having the use of the "L" for an outdoor run, giving an area of eighteen hundred feet. An "L" shaft running through the middle of the building from top to bottom, furnishes a ready means of carrying up the material for dissection, and other freight, and serves as well for additional means of hospital ventilation and light.

Especial mention should be made of the operating-room, constructed with special reference to the practice of aseptic surgery, well-lighted, and provided with sterilizers, an operating-table, hot and cold water, and all conveniences.

A forge is supplied with all necessary tools, etc., for the manipulation of the foot and manufacture of shoes. For immediate convenience a boiler was added, of sufficient capacity to supply hot water in every part of the building.

CHEMICAL LABORATORY.



Small pharmacies are provided for the dog and horse hospitals, sufficient for all needs, while the large pharmacy, devoted to the purposes of instruction, is supplied with all drugs and prescriptions ordinarily used in veterinary medicine.

The lecture-room is fitted with two hundred seats. It is well lighted and ventilated from above as well as with windows at side and end.

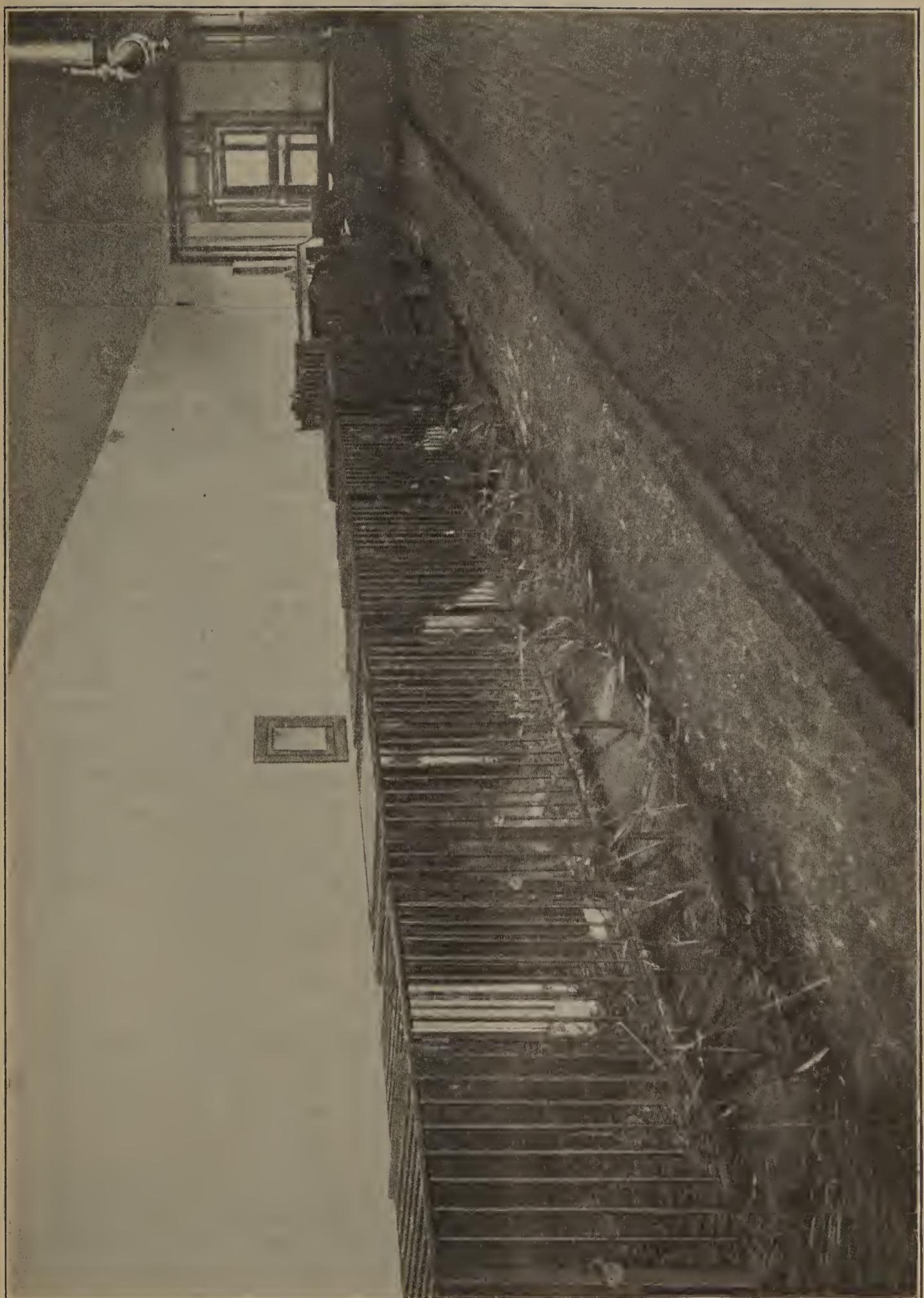
An important subject which engaged the attention of the trustees and faculty, who have throughout worked in unison, is the improvement of the character and amount of instruction given. It was clear, of course, that the first step was to grade the course, in compliance with the demands of the United States Veterinary Medical Association. The course was extended to a three-years' graded one, and this change was announced in the first circular published after the reorganization.

Next in importance in the new order was the enlargement of the faculty by the addition of well-known specialists in the various departments of veterinary medicine. Time was needed to gain certainty of judgment in the rapid lines of change, but since the reorganization the faculty has been increased and strengthened by the addition of several valuable members; Dr. R. W. Hickman, graduate and formerly demonstrator of anatomy in the University of Pennsylvania, who is now in charge of the New York department of the Bureau of Animal Industry; Dr. W. Lillman, late graduate of Giessen and Berlin; Rush Shippen Huidekoper, M. D., Veterinarian (Alfort), who organized the Veterinary Department of the University of Pennsylvania and was the first dean of that college. Dr. Huidekoper also lectured two years at the American Veterinary College and is the President of the New York State Veterinary Medical Society. He is the author of several works on veterinary medicine.

Among the graduates of the New York College of Veterinary Surgeons appear the names of a number of men who have become celebrated in the veterinary profession throughout the whole of the United States. Among the first was James L. Robertson, who for the next few years was an instructor in the college, and in more recent years has been the popular teacher at the American Veterinary College, and who is also well known as the treasurer of the United States Veterinary Medical Association.

Among other well-known graduates have been, Harry D. Gill, present dean of the college; James Hamill, the specialist on diseases of the foot; Patrick Burns, of New York; Roderick

CANINE HOSPITAL.



A. McLean, of Brooklyn; William H. Birch, of Philadelphia; James H. Ferster, of New York, now lecturer at the college; Robert W. Finley, of New York City; Charles B. Michener, for years the well-known secretary of the United States Veterinary Medical Association and professor for some years at the American Veterinary College and at the New York College of Veterinary Surgeons. He recently died, after having held an important position under the Government in the Bureau of Animal Industry, at Washington, D. C. Other graduates of the college, too numerous to mention, have made names for themselves and reputation for the college in public life.

Among the well-known names which have appeared in the faculty are those of: A. F. Liautard, M.D., V.S.; A. Large, M.D., M.R.C.V.S.; A. S. Copeman, V.S.; J. Busteed, M.D.; J. L. Robertson, M.D.; F. L. Satterlee, M.D.; Samuel R. Percy, M.D.; Alex. W. Stein, M.D.; Edmund G. Dawson, A.M., M.D.; D. C. Comstock, M.D.; Thomas M. Hawkins, M.D.; E. S. Bates, M.D., R. S. Finley, M.D.; J. A. Going, M.R.C.V.S.; Thomas H. Skinner, M.D.; F. H. Stephens, M.D.; J. B. Coleman, M.R.C.V.S.; J. M. Heard, M.R.C.V.S.; L. McLean, M.R.C.V.S.; L. V. Plageman, M.R.C.V.S.; A. S. Heath, M.D.; W. S. Gott-heil, M.D.; Alex. Lockhart, M.R.C.V.S.; R. A. McLean, H. D. Gill, V.S.; T. Robertson, M.R.C.V.S.; J. A. Breakell, M.D., V.S.; H. M. Biggs, M.D.; Charles B. Michener, V.S.; E. F. Brush, M.D.; W. R. Ballou, M.D.; J. S. Hopkins, M.D.; Charles L. Allen, M.D.; J. H. Huddleston, M.D.; George P. Biggs, M.D.; O. E. Busener, V. S.; A. C. Hasslock, V.S., and Harvey T. Potter, V. S.

EPIZOÖTIC SORE MOUTH OF SHEEP IN MONTANA.

BY R. N. MEAD AND FREDERIC PRIEST,¹
COLUMBUS, OHIO.

ON October 12, 1894, Professor H. J. Detmers, of the Ohio State University, received a letter from Mr. F. Snyder, Musselshell, Montana, asking for information regarding a peculiar disease prevailing among the sheep, and especially among the lambs of his district. In the following we give the letter of

¹ Extract from Thesis at Department of Veterinary Science, Ohio State University.

Mr. Snyder and subsequent correspondence, together with a synopsis of our investigation and conclusions.

H. J. DETMERS, V. S.,
1315 Neill Avenue, Columbus, O.

DEAR SIR: I enclose a scab from the sore mouth of a lamb. The lambs in this State get the sore mouth about November; it lasts a month or six weeks, being fatal to many by reason of thinning them down so they will not stand the winter. Everyone takes them out of the band and feed hay for a month as the only remedy, as their lips swell so they cannot get their teeth to the grass.

It is contagious, if not infectious, for I have tried it two years, accidentally my pet lambs getting in with the sick ones just once or twice when they were nearly well in the one case, in the other when at the worst stage.

Feeding well lambs at the grain-trough after the others are gone, even after freezing weather, will sore the well ones' mouths. What is it? How do you prevent its appearance? Only lambs get it, sheep rarely. Grease makes it worse; swabbing the mouth three or four times thoroughly with one-quarter ounce of carbolic acid melted in a pound of grease helps them, but they fall away, and have to be kept in the hospital all winter in some cases. What do you think causes this?

Respectfully yours,

F. SNYDER.

MUSSELSHELL, MONT., October, 1894.

We expressed our desire to investigate the disease, and through kindness Professor Detmers placed in our possession the above letter and scab. The letter was postmarked Musselshell, Mont., October 9, 1894. Received at Columbus, Ohio, October 12, 1 P.M., 1894.

The scab was about the size of a three-cent piece by one-eighth inch in thickness; the external surface gray to almost white, the internal surface dark brown. In the substance were many of the fine hairs of the lips, in an erect position, extending through and above the surface. On the surface there were also many little fissures, some of which were in depth equal to half the thickness of the scab, these radiating in an undulating manner from centre to circumference.

SHEEP No. 1.—*October 18, 1894*, we procured a grade merino ewe, four years of age, weighing ninety-five pounds. A physical examination satisfied us that the animal was in good condition to enter the experiment as subject.

19th, A.M. Temp. 102.2° F. Following the taking of temperature came the inoculation, which consisted in scarifying the skin at the apex of the lower lip, at the corner of the mouth on the left side, also opposite the centre of external masseter muscle, and a point on inner surface of the hind leg, smearing over

each of these points with some of the initial scab, which had been previously softened in water.

20th, A.M. Temp. 102.1° F. *P.M.* Temp. 102.3° F.

21st, A.M. Temp. 102.8° F. *P.M.* Temp. 102.8° F. The points of inoculation were healed over, and no visible signs of an infection were present. This led us to think that we had as a subject a non-susceptible animal. So our taking of temperatures and watching of the animal ceased.

31st. When feeding the animal, noticed a dark spot at the apex of the lower lip, and examination revealed a reddish-brown papule about the size of a grain of buckwheat; also two papules at the commissure inoculation, one on upper and one on lower lip. The cheek and leg inoculations were covered with brown scab, no papules.

November 1st, A.M. Temp. 102.6° F. *P.M.* Temp. 103.2° F. Animal has slight diarrhoea; apex papule much larger; commissure papules becoming ulcerous.

2d, A.M. Temp. 104.2° F. *P.M.* Temp. 103.8° F. Papules rapidly forming and becoming confluent; animal refuses food and water.

3d, A.M. Temp. 102.8° F. *P.M.* Temp. 104.6° F. Animal stupid; lymphatic glands swollen; papules nearly all ulcerous, and scabs being produced.

4th, A.M. Temp. 105.1° F. *P.M.* Temp. 104.9° F. Papules all advanced to the ulcerous stage, have become more or less confluent, and scabs being produced; no new papules forming.

5th, A.M. Temp. 104.2° F. *P.M.* Temp. not taken.

6th, A.M. Temp. 104.6° F. *P.M.* Temp. 104.8° F.

7th, A.M. Temp. 103.2° F. *P.M.* Temp. 102.8° F. Scabs getting thick, and the characteristic fissures appearing.

8th, A.M. Temp. 102.6° F. *P.M.* Temp. 102.1° F. Animal improving; eats well; swelling of glands disappeared; a rapid granulation beneath the scabs.

9th, A.M. Temp. 101.9° F.

10th, A.M. Temp. 101.6° F. Removed all scabs and placed in tubes as material for future inoculations.

13th. All causes have ceased to act, and a perfect recovery present. There are no scars to indicate any loss of substance. During the entire existence of the disease no trace of the morbid process extended into the mucous membrane or to the tougher skin, but remained localized to the soft skin of the muzzle.

14th. Placed sheep No. 1 in a clean pen in a new building 200 feet distant from the one in which it had been confined from the time of purchase until this 14th day of November. Put in the same pen with sheep No. 1 sheep No. 2, a grade merino ewe, four years old. Made no inoculation to sheep No. 2; this experiment will be conducted with a view to a natural infection.

November 15th, A.M. Temp. 102.8° F. P.M. Temp. 102.3° F.

16th, A.M. Temp. 102.2° F. P.M. Temp. 102.6° F.

17th, A.M. Temp. 102.2° F. P.M. Temp. 102.2° F.

18th, A.M. Temp. 102.3° F. P.M. Temp. 102.2° F.

19th, A.M. Temp. 102.2° F. P.M. Temp. 102.3° F. Five days after the sheep were placed in the pen together a papule about the size of a millet seed appeared on the right lower lip about one inch in front of the commissure of the mouth.

20th, A.M. Temp. 102.2° F. Papule increasing in size; second papule coming on left side about same point. P.M. Temp. 102.3° F.

21st, A.M. Temp. 102.2° F. P.M. Temp. 102.3° F.

22d, A.M. Temp. 102.3° F. P.M. Temp. 102.3° F.

23d, A.M. Temp. 102.3° F. P.M. Temp. 102.2° F. The first papules have become ulcerous, and the whole muzzle covered with small papules.

24th, A.M. Temp. 102.2° F. P.M. Temp. 102.3° F.

25th, A.M. Temp. 102.2° F. P.M. Temp. 102.3° F.

26th, A.M. Temp. 102° F. P.M. Temp. 102.1° F. All but two or three of the papules have advanced to the ulcerous stage, some covered with the thick characteristic scab.

27th, A.M. Temp. 102.3° F. P.M. Temp. 102.2° F.

28th, A.M. Temp. 102.6° F. P.M. Temp. 102.1° F.

29th, A.M. Temp. 102.4° F. P.M. Temp. 102° F. Removed scabs, rapid granulation beneath.

30th, A.M. Temp. 102.2° F. P.M. Temp. 102.1° F.

December 3d. All ulcers have healed, no scars remaining. It will be noticed that the temperature did not reach any abnormal height, nor did it vary greatly. The animal ate with comparatively little inconvenience, and no symptoms of disease were observed other than the sore mouth, which was more extensive than on sheep No. 1. Lymphatic glands not swollen, no diarrhoea, the morbid process extended neither into the mucous membrane nor to the tougher skin, but remained localized to the soft skin of the muzzle.

SHEEP No. 3.—Sheep No. 3 is a yearling merino wether. *November 15th*, inoculated No. 3 at two points on the lower lip, the inoculating material being produced by inoculating nutrient gelatin in tubes with scab from Montana. The fourth culture remote from the scab was used for the inoculation. The culture was a mixed one, containing one short bacillus with rounded ends, one large and one small coccus, and one fungus.

November 15th, P.M. Temp. 103.4° F.
16th, A.M. Temp. 103.6° F. P.M. Temp. 104° F.
17th, A.M. Temp. 103.6° F. P.M. Temp. 103.3° F.
18th, A.M. Temp. 103.3° F. P.M. Temp. 103.4° F.
19th, A.M. Temp. 103.3° F. P.M. Temp. 103.4° F.
20th, A.M. Temp. 103.2° F. Five days after inoculation small papule on lower lip at point of inoculation.

20th, P.M. Temp. 103.3° F.
21st, A.M. Temp. 103.2° F. P.M. Temp. 103.3° F.
22d, A.M. Temp. 102.5° F. P.M. Temp. 103.3° F.
23d, A.M. Temp. 103.4° F. P.M. Temp. 103.2° F.
24th, A.M. Temp. 103.2° F. P.M. Temp. 102.4° F. Papule has disappeared. It did not come to ulceration; however, it looked exactly like those on sheep 1 and 2.

25th, A.M. Temp. 102.5° F. P.M. Temp. 102.6° F.
26th, A.M. Temp. 102.3° F. P.M. Temp. 103° F. Inoculated two points on lower lip with mixed cultures of micro-organisms which had been cultivated on potato.

December 10th (fourteen days after second inoculation of sheep No. 3). Nothing developed.

22d. Placed sheep No. 3 in the pen with Nos. 1 and 2 with a view to natural infection.

January 6th. As yet no signs of a natural infection. Thinking that the inoculation with the remote culture that produced the papule had produced immunity, we now tried to solve this question by inoculating sheep No. 3 with scab from sheep No. 1.

12th. Six days after inoculation with scab, papule appeared at the point of inoculation.

13th. One papule on upper and two on lower lip.
14th. Many papules present.
15th. Older papules becoming ulcerous, and lips swollen considerably.

20th. The morbid process has reached the height of development, the ulcers covered with the thick, characteristic scab.

31st. Sheep No. 3 fully recovered, the temperature did not vary over a degree either way, no diarrhoea, no swelling of glands; was for a time a little indifferent and slow about eating hay. The morbid process extended neither into the mucous membrane nor into the tougher skin, but remained localized to the soft skin of the muzzle.

CONCLUSION. Although the papule produced by the culture inoculation did not course in the characteristic manner, it seems to have some bearing, as the animal was submitted to conditions favorable for a natural infection for a period of fifteen days without being infected. But if the animal was immune it was only to a slight degree, as a direct inoculation produced the disease in its characteristic form, after the usual period of incubation, five to six days.

We continued our experiments for the purpose of finding, if possible, the true cause of the disease, which we had reason to believe to be a specific micro-organism. Sheep being rather expensive, we tried to find some other susceptible animal less expensive to experiment with.

March 12th. We inoculated one young rabbit on the lower lip. Material used for inoculation was scab from sheep No. 1.

18th (six days after inoculation). Two small papules appeared at point of inoculation. From day to day the morbid process progressed from papule formation to ulceration, later to production of characteristic scab and heating. However, none but the two papules appeared.

17th. Inoculated rabbit No. 2 (an old male) with scab from sheep No. 2.

23d (six days after inoculation). Papule appeared, the morbid process progressed from day to day, spread to the upper lip, and the whole muzzle was covered with the characteristic scabs. The rabbit ate well, and showed no signs of being ill other than the sore mouth.

April 9th. Inoculated two young rabbits (3 and 4) with scab from rabbit No. 1.

15th (six days after inoculation). Several small papules on upper and lower lips of rabbits 3 and 4

With the above rabbits experimented with no signs of illness prevailed other than the sore mouth; nor did the morbid process extend into the mucous membrane or tougher skin, in any case.

We inoculated nutrient gelatin in tubes with scab from Montana, and in twenty-four to forty-eight hours had a strong germ development, many varieties being present. The impure cultures grow more rapidly at surface of gelatin, but grow all along the puncture. They begin to liquefy the gelatin at top and proceed downward in funnel shape, the liquefied gelatin being turbid. In course of two or three weeks the whole mass of gelatin is liquefied, at the bottom of which lies a yellowish, sediment-like mass, which is composed of bacteria and large and small cocci. From such cultures we made plate cultures, the fourth plate being necessary to separate them.

In twenty-four to forty-eight hours we find two distinct growths, both superficial colonies which grow beneath the surface of the gelatin. One of the colonies grew very rapidly, at first white, later having a blush halo about it. This one liquefies the gelatin rapidly. This is a pure colony of bacteria, short, thick, straight rods with rounded ends. The other does not grow so rapidly, and does not liquefy the gelatin. The colonies first appear as little dots, as they advance they show a yellowish coloration; these are pure colonies of medium-sized cocci, which appear singly or in twos.

Tube cultures from Montana scab, also from sheep Nos. 1, 2, and 3, and rabbits, all have the same characteristic growths on the gelatin plate, the same two colonies (bacilli and cocci) develop in the characteristic manner.

We have inoculated rabbits on the lip with the mixed cultures which were produced by inoculating gelatin tubes with scab, and in each case this inoculation failed to have any perceptible effect. Inoculated rabbits with each of the pure colonies (bacteria and cocci) grown on the gelatin plates; these failed to produce the disease.

From the above experiments and their results we have arrived at the conclusion that the micro-organisms which we have grown on gelatin are not the primary cause of the disease in question, although they undoubtedly play an important part in the morbid process.

We directed a letter to Mr. Snyder, of Montana, asking his help in that he give us an idea of the conditions prevailing at times of outbreak of the disease in question (mouth disease of sheep). November 20 came the following reply:

DEAR SIRS: Yours of the 11th came duly. I will help you all I can, but cannot promise prompt answers, as I am very busy and twelve miles from the office.

This disease is prevalent all over the Musselshell Valley to my knowledge, and I think all over the State; looked upon as one of the things lambs must have, and not much said about it. Sheep are herded in bands varying from 1000 to 4000, and this sore mouth comes mostly to lambs that have not been weaned, but allowed to let the ewes wean them or not, as they please.

The time varies because there is no set time to put sheep in their winter range, which is a dry camp, *i.e.*, where they must eat snow or, that failing, must be driven several miles every third day to water. It has been attributed to salting them, thus freezing their mouths; but lambs raised at the house, that get salt every day, never get the disease unless brought into contact with the lambs from the bunch which have sore mouth; even then they must eat with the diseased ones; if separated by a fence they are safe. But sooner or later, even when they are four years old, they are liable to take it when exposed to it; but they never have it twice.

The use of those applications of carbolic tallow, one-half ounce of carbolic acid to a pound of tallow, swabbed on their mouths three times, then take them off the range and feed hay until swelling goes out of their lips so they can pick the grass again; feeding them oats and hay during that period, usually a month.

Fat lambs have few sores, their lips do not swell badly, and it lasts but two weeks. Some that are poorer than average will have it six weeks, and some die because they cannot eat hay and oats. If you do nothing for them, leave them on the range, there may be a 50 per cent. loss if the weather turns bad, as they chill and die.

Our lambs this year are not in their winter range, will not be there before the 1st of January, as so far we have no snow. So they may not have it at all. As they are about weaned they will be turned back to the ewes on the 26th. They are now drifting out of sight, so I will have to close and attend to my herding.

Respectfully,

F. SNYDER.

GENTLEMEN: Your letter of February 18th received in due time, and I am very sorry I could not give it more prompt attention, although I have little or nothing to write that can be of use to you.

"Sore mouth" is the only name I have heard for the disease you describe, although I do not know that it ever extends to the mouth proper. My opportunity for observing it has been very limited, as we have had it among our sheep only twice, and each time to a very limited extent, affecting, so far as noticed, only a few that were in an unthrifty condition. Each time, too, it disappeared without treatment, and without greater loss than might have occurred in its absence, the sheep only being changed from feeding on the range to hay and water in the yards, with sometimes a little grain. Late fall or early winter is the season when the disease makes its appearance, and at that time we always have some unthrifty sheep to pick out of the main flocks and feed in the yards, as above mentioned. You are doubtless aware that the most of our sheep graze on the open plains winter as well as summer. It is only weak and unthrifty sheep that are kept and fed in the yards, and these are termed "invalids" or "hospital sheep." With regard to cause or

prevention I know nothing more than may be suggested by the above allusions to the conditions of the sheep which were, in our experience, affected.

The Hon. E. Beach, Helena, Mont., has had a more extended experience with the disease, and has been compelled to adopt treatment for it, which, I believe, has consisted of applications of a carbolic salve. It could do no harm to address him in regard to it, and it might elicit information of much value to you. Regretting that I am unable to contribute more extensive and more precise information, I remain,

Yours very respectfully,
C. Y. LACY.

LACY, CHOTEAU CO., MONT., March 14, 1895.

It is a very difficult task, in fact beyond our limit, to give a perfect and intelligent description of all the conditions prevailing where this disease has its home; nor can we state what localities are affected or exempt. Can only refer to above letters.

A lack of time and means has prevented a thorough investigation conducted in a proper manner. So we will be compelled to draw our conclusions from our narrow experiments and the embodied letters. We are convinced that the disease is strictly a contagious one, and limited to a certain part, *e.g.*, the softer skin about the muzzle. The disease is characterized by the rising of papules, advances to ulceration, then incrustation, and, finally, in the majority of cases, to a rapid recovery. A fatal termination will be a small per cent. if properly cared for.

TREATMENT.—A medicinal treatment will be of little or no value in most cases, as the disease will run its course in from two to three weeks without a medicinal treatment, provided they are protected from severe and stormy weather, and get proper food. Applications of tincture of iodine, carbolic acid, creolin, etc., must be repeated for several times to benefit the animals materially. In large flocks this would require much labor and expense, where the disease is permitted to run through the flock by natural infection, as the disease would remain in the flock for several months. Thus flock-owners would suffer losses due chiefly to severe winter weather. We would suggest to take the lambs up at convenient time before the severe weather sets in and inoculate them with the disease-producing material, which may be collected from sheep affected in a mild form, then feed hay and grain, with clean water for drinking. Following this procedure the disease will be disposed of in about twenty-one days; the period of incubation being five to six days, reaches its height in about ten days more, a recovery takes place in five to six days (according to our experiments). If any severe cases occur it would be advisable to apply some of the medicinal agents before mentioned.

ON THE MORBID HISTOLOGY AND BACTERIOLOGY OF EQUINE PNEUMONIA.

BY CECIL FRENCH, D.V.S.,

M'GILL UNIVERSITY AND ROYAL VETERINARY HIGH SCHOOL, MUNICH.

IN order to render clear and comprehensive to oneself a description of the minute pathological changes concurrent with those of a macroscopic nature in a pneumonitic lung, a thorough appreciation of the normal histological appearance of lung-tissue is essential.

It will be remembered that the bronchioles split up and become narrower and more divergent, and are lined by columnar epithelium until a short distance before they enter the terminal alveoli or air-sacs (the word "sac" is to be preferred to "cell," since the latter is apt to be confused with that designating the vital elementary structures lining the cavity). Here the passage becomes again dilated to form an infundibulum which merges into the ultimate air-sac. In the smallest bronchioles the muscular elements are lost and the epithelium become more cubical, gradually assuming a flattened appearance toward the alveoli. The elastic fibres form the most important basal tissue of the terminal sacs, and contiguous to the alveoli lie the capillaries and lymphatics.

Inflammations of the lungs (pneumonia) may be either acute or chronic, with well-marked differences, the former usually affecting a whole lobe (lobar) when it is of a croupous type, the latter certain lobules (lobular) when it is generally catarrhal in nature and concomitant with evidences of bronchitis and bronchiolitis. To these may be added the interstitial or fibroid varieties, distinguished by great thickening of the interstitial connective tissue consequent on some chronic irritation such as of tubercles or of the various pneumonokionoses, these latter being rare in the horse, and hypostatic pneumonitis, which occurs as a result of cardiac failure or incompetency during the course of some exhausting disease. Such inflammations may start from (*a*) the bronchioles, (*b*) the pleura, extending inward along the lymphatics, (*c*) the small capillaries, in cases of pyæmia (infarcts of microbes).

Three distinct degrees of inflammatory action may be recog-

nized: simple congestion, congestion and exudation of leucocytes, congestion and exudation of leucocytes and red cells.

In a simple congestion the capillaries surrounding the alveoli are seen to be abnormally distended and filled with red cells, and, as in all inflammations, the blood current stagnates, and, according to one theory, produces a starvation of the capillary walls and of the highly-functional air-cells lining the alveoli. These now lose control of their secretory power, and are unable to prevent a transudation into the sacs of certain of the blood fluids. Or, from another point of view, we may regard this outpouring of fluid as an attempt on the part of the organism to flush certain morbid areas.

The process may now go on to the second stage, that of diapedesis of leucocytes and denudation of the air-cells.

So far the differences between the catarrhal and primary stages of the croupous forms would seem only apparent as regards acuteness and intensity of the congestive processes. In the former the congestion is more of a sluggish circulation, the mucous membrane exhibiting a depraved state. The bronchial cells proliferate and are cast off, and on the extension of the congestion to the alveoli the flat air-cells also swell out and migrate. In this form can be seen numbers of the large "catarrhal" cells, regarded by some as being entirely the denuded swollen air-cells, by others as wandering leucocytes.

In the croupous type a further and more severe stage is reached, that of hemorrhagic exudation, or exodus of red cells. Coagulation then takes place, the plugs adhering to the walls of the alveoli. This is the stage of red hepatization, rarely seen, as death seldom occurs at this period. The haemoglobin dissolves out of the red cells, developing into an insoluble pigment known as haemosiderin, and leaves them of a pale appearance. Large numbers of leucocytes pass out, the fibrin contracts, the clot becomes looser, breaks up, and degenerates, assuming a granular character. This is the stage of gray hepatization, which passes insensibly into that of resolution, characterized by expectoration and absorption and regeneration of the lining air-cells. The large catarrhal cells are actively engaged in taking up the haemosiderin, some then to degenerate themselves, others to return to the neighboring lymphatics. A similar notable phagocytic performance is witnessed in the activity of the leucocytes in the tonsils in man, which pass out to devour the inhaled bacteria.

Equine pneumonia is apparently dependent for a causative agent on a specific micro-organism not unlike that found in the human pneumonitic lung, but nevertheless different in that it possesses distinctive biological characters. The *micrococcus pneumoniae crouposae* of man takes the Gram stain, whereas that of the horse does not; the former will not grow at the ordinary room temperature, the latter will.

Schütz obtained and described the bacterium *pleuro-pneumoniae equi* in 1887, though it had previously been observed by Friedberger in 1873, by Leyden, Mendelsohn, and Peterlein in 1884, and by Perroncito in 1885. In shape it is oval, undergoing division at right angles to the long axis, thereby lying in pairs and resembling somewhat the bipolar bacteria of fowl-cholera, though smaller, but claimed by some to be identical.

The secondary necrosis of the lung-tissue is due to other microphytes, which induce putrefaction as soon as pneumonic processes have disturbed the lung-tissue. To obtain a pure culture of the microbe direct from the lung is very difficult. Perfectly sterile instruments only must be used, and the tissue teased apart until one of the alveolar fibrinous plugs be isolated. From this a gelatin culture may be made, but as the various secondary necrotic bacteria usually have time to generate and multiply in great numbers before the dissection can be made, a very mixed growth is the result. But by subcutaneously inoculating a white mouse with the material, the pneumonia microbes will very often thrive rapidly to the exclusion of the others, and kill the subject in from twenty-four to forty-eight hours. Then from all parts of the body a pure culture can easily be obtained.

MEAT AND MILK INSPECTION IN GERMANY.¹

BY OTTO NOACK, V.S.,
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GENTLEMEN: At our last meeting in Pottsville I was asked to speak of meat and milk inspection in my native country. A branch of the study of veterinary science is the law of veterinary practice. It contains two different parts, one subject to the

¹ Read before the Schuylkill Valley Veterinary Medical Association.

courts, the other to the magistrate. A part of the latter is (1) meat and (2) milk inspection.

By inspection of meat we understand the inspection by law to determine if meat is injurious to human health; secondly, the inspection of meat to be exposed for sale. This is done in order to prevent diseased or tainted meat in any form from being sold. All meat is subject to inspection in Germany, whether for private use or for the trade, with the exception of small towns or villages where there is no public slaughter-house and inspector. There only pork is subject to inspection for trichinosis. The other meats offered for sale are subject to market inspection. Where there are slaughter-houses no one is allowed to slaughter but in the slaughter-houses. Meat inspection is based on the law concerning human food, passed May 14, 1879, for the prevention of selling diseased or tainted meats. To disobey this law is punishable by fine or imprisonment. Very often it is difficult to distinguish diseased meat after slaughtering, therefore an examination of cattle is made before killing, and afterward a close inspection of the intestinal organs is made. This rule must be carried out in all slaughter-houses.

The law is divided into three sections:

1. Fine for disobeying the law.
2. Explanation of what is injurious and tainted meats.
3. Inspection of meat in sick or abnormal condition.

I shall now give the legal explanation of what is meant by meat injurious to health and tainted meat. These are the principal points for the veterinary inspector to discover in the slaughter-houses, also for the inspector at the markets. Fowl, fish, and game are also subject to market inspection.

a. Meat is injurious to health when experience teaches that eating such meat endangers the people's health by its condition, or it is proved by science such meat is injurious to mankind.

b. Tainted meat is that which has such an abnormal condition that the general opinion is that this meat cannot be eaten. To this class belongs:

1. Artificial meat is any meat that is made to have the appearance of a better quality than it really is, for example, certain kinds of sausage, when they become tainted they get gray, and to make them look fresh the butcher puts on a red color by artificial means.

2. Inferior quality, when the meat comes from animals that were in a bad condition.

Now I come to the last class, as it comprises more or less of the second part.

a. Injurious to health, and to be condemned, is all meat coming from cattle affected with trichinosis, anthrax, glanders (the poor people eat horse-meat in different parts of the old country), hydrophobia, ulceration of the uterus, prolapsus uteri, with necrosis, calves having pyæmia or septicæmia. This also includes fowl and game.

b. Cysticerces of hogs and cattle is injurious to humanity, but loses all danger by boiling, but if there is a large amount of cysticerces it is condemned. The law allows it to be used after thorough boiling.

1. The fat of hogs affected with cysticerces can be used after frying or boiling.

2. To chemical preparations for soap and glue.

3. If many parts are affected the meat must be destroyed in presence of a public officer.

c. Meat of cattle with tuberculosis can be used, (1) providing the animal is in good condition, (2) when only one organ is affected. The inspector must act according to law, either destroy the meat or mark it as inferior quality. The parts affected are carefully destroyed, care being taken not to get into contact with other meat. When the meat is covered with pearls it is injurious to health and is condemned.

I think it is very wrong to allow any meat of tuberculous animals to be sold, if ever so little affected, as it is the most contagious and destructive disease, and only by the most rigid means can it be wiped out of existence.

d. Tainted (this meat can be used privately by the owner, but cannot be sold), this meat is from animals affected with:

1. Emphysema gangrenosum, erysipelas, and other infectious diseases. These diseases are not contagious to mankind, only contagious to the same class of cattle, therefore they are not injurious to human health.

2. Actinomycosis, echinococci.

3. When animals are killed too late, that they do not bleed freely.

4. Meat that has a bad odor owing to the food they eat, medicine taken, or other causes.

5. Meat of the unborn, or of animals driven or chased to death, watery or bad-looking meats.

e. Inferior quality, this meat is allowed to be sold for inferior

quality, mentioning the circumstances why the animal was slaughtered.

The meat of animals that are sick, and not injurious to humanity, is allowed to be sold. This law includes the following:

1. Tuberculosis in low degree.

2. Pneumonia, providing no high fever or destruction of lungs and pleura; cows affected with milk fever in the first stage, tympanitis, prolapsus uteri.

3. Fractures and heavy external lesions.

4. Chronic diseases without fever, ulceration, or marasmus.

Parasitic diseases of sheep are subject to the same law, providing they are killed in time.

Of what importance a good meat inspection will be for our country, according to exportation of meat, we can see by the notice of the 4th of December, 1894: The Reichsanzeiger announces that the importation into Germany of canned beef from the United States will be prohibited unless such meats are accompanied by certificates from the United States inspectors that the animals from which the meats were obtained were free from disease when slaughtered. And we never would hear such words as uttered by the Count zu Limburg Hirim on the floor of the German Parliament. The Americans demanded mild treatment of their meat and cattle exports.

Of equal importance is the examination of milk. It is subject to the same law as the meat inspection (passed May 14, 1879). The police have charge of the examination of milk. By the use of a galactometer the inspector can tell whether the milk has more or less specific weight than about 1.030 (this is the required specific weight), and must contain 13 per cent. solids. If more or less the milk is poured away. Water is most commonly used to adulterate milk—which is very easily detected by a practical eye when the milk drops down on the galactometer. After the cream is off the milk weighs heavier; to get the standard specific weight again the law allows a certain quantity of water to be added.

All cows must be examined by a veterinary surgeon. The creamery would refuse to buy otherwise. If the veterinary surgeon discovers any contagious disease the stable is closed by the police, and only by his consent can the milk be used or sold.

I have seen a case where the cows were affected with disease of feet and mouth. The attending veterinary surgeon allowed

the owners to use the milk for themselves, providing they boiled it before using. Contrary to this, they used the milk unboiled. The same disease affected the entire family, showing the symptoms on gums and tongue.

It would be advisable for each county to have a veterinary surgeon employed by the Board of Health to examine the cows of farmers, especially those of dairymen. This would prevent them from selling milk from cows affected with tuberculous and other contagious diseases. This should be earnestly considered. A good reliable milk and meat inspector should be employed by the government. This would prevent us from having injurious food with germs of tubercle and other contagious diseases, and no doubt many lives would be prolonged.

INVESTIGATIONS CONCERNING TEXAS OR SOUTHERN CATTLE-FEVER.

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FOR the history of this disease and an account of its peculiarities, its symptoms, and the characteristic morbid changes occurring in individual animals, we refer all those interested to the abundant and accessible literature upon the subject.

In our work we will confine ourselves to a discussion of the various theories advanced to account for the phenomena observed in the spreading of this disease, and relate our experiments, made for the purpose of testing the tick (*Ixodes bovis*) theory of communication.

It has been observed that this disease follows the course of the transportation of Southern cattle to Northern markets. These cattle, while themselves perfectly well, carry with them some contagium or infectious principle, which, when coming in contact with native Northern cattle, produces in the latter the pathological conditions which are designated "Texas or Southern cattle-fever." Thus it has been observed that Northern cattle, when transported in cars in which Southern cattle have been shipped, when occupying yards in which Southern cattle have been kept, when pastured or allowed to eat where Southern cattle

have been grazing, or allowed to drink where Southern cattle have been watered, almost invariably contract the disease. It, therefore, appears that we have in this disease exactly the opposite conditions which exist in other infectious diseases, in that the disease is spread by perfectly healthy animals, while animals suffering from an attack are powerless to communicate it to other animals.

Perhaps the best explanation of these (paradoxical) facts is offered by the parasite theory, *i. e.*, by assuming that the disease is produced by (parasitic) micro-organisms which either adhere externally to the bodies of the Southern cattle or exist and are conveyed within their organism.

Various efforts have been made to discover the true micro-organism, fulfilling in every respect the conditions necessary to constitute the cause of this peculiar disease. Of these, we may mention the efforts of Dr. H. J. Detmers, of Columbus, O., to find the suspected germ in artificial cultures of the bacteria occurring in infusions of the native Texas grasses, and in the blood and tissues of cattle dying of this disease. He was unable to arrive at a definite conclusion.

Since then other investigators have boldly announced that they have found the specific micro-organism, the true cause of the disease. But a careful analysis of these statements shows them to be insufficiently supported by actual facts.

Notwithstanding these negative results, it may be considered very probable that the contagium or infectious principle is to be found adhering to the external surface of the bodies of the animals, or exists in the excretions, or, as supposed by Dr. Detmers, in the saliva or slaver of the Texas cattle.

Another theory worthy of consideration, advanced by some cattlemen as early as the seventies, and recently resurrected by Dr. D. E. Salmon and others, is that the ticks (*ixodes bovis*) which infest Southern cattle are the medium through which the disease is communicated. Along this line Salmon has made experiments. He put Northern cattle in fields which had been previously occupied by Southern cattle, and produced the disease in almost every instance. He also put Northern cattle in fields previously occupied by tick-free (?) Southern cattle, and failed to produce the disease. Again, he prepared fields by scattering over them ticks imported from the Southern States, and when Northern cattle were kept confined in these fields, Texas fever appeared among them. Furthermore, he claims to have pro-

duced unmistakable Texas fever in Northern cattle by applying to them young ticks artificially hatched in the laboratory. Along this latter line of investigation we have conducted our experiments. In our work we have been greatly aided by the kind assistance of Dr. M. Francis, Professor of Veterinary Science in the A. and M. College of Texas. To him we are indebted for our knowledge of the natural history of these parasites, and for our supplies of live ticks.

On March 24, 1895, the first consignment of ticks was sent, and it arrived in Columbus, safe and sound, on the 26th. This shipment consisted, at a moderate estimate, of 200 mature ticks, mostly females. These were placed in a glass dish in the incubator of the bacteriological laboratory, and kept at a temperature of 27° C. On April 3d we received the second shipment of live ticks from Texas. These, too, were placed in the incubator with the others. In a few days they began to deposit their eggs. By April 10th an immense number of eggs had been deposited, and the old ticks, with but few exceptions, were dead. The old ticks were then removed and destroyed, and the eggs kept in the incubator as before. Care was taken to keep the air in the incubator moist by keeping in it a vessel filled with water. By the 27th of April some of the eggs were noticed to be turning a sort of silver white, and on the 3d of May the first young ticks appeared. Only a few of the eggs of the first lot of ticks hatched, but from the eggs of the second lot we received quite a large number of ticks. On the 6th of May these young ticks were placed on a cow, a grade Jersey, probably about six years old, in good condition as to flesh, apparently healthy, except incipient tuberculosis, and had never, in any way been exposed to Texas fever. The ticks were placed on a cloth, and the cloth was tied against the abdomen immediately in front and over the udder. The young ticks soon attached themselves to the hair, and the cloth was left in position for twenty-four hours. As direct sunlight is known to be fatal to young ticks, the cow was kept in the stable the entire time of the experiment.

The rectal temperature, taken at the time the ticks were placed on the cow and twice daily afterward, was as follows:

		A.M.	P.M.		A.M.	P.M.
May 6th	.	. 99.2°	102.4°	May 19th	. . 101°	101.6°
" 7th	.	. 99.2	101.4	" 20th	. . 100.2	101.2
" 8th	.	. 99.2	101	" 21st	. . 100.2	101.6
" 9th	.	. 100	101	" 22d	. . 100.6	101.8
" 10th	.	. 101	101	" 23d	. . 100.4	101.8
" 11th	.	. 101.2	100.8	" 24th	. . 101	102
" 12th	.	. 99.8	101.4	" 25th	. . 100.8	102.4
" 13th	.	. 101.2	100.8	" 26th	. . 100.6	101.2
" 14th	.	. 99.8	99.8	" 27th	. . 100.6	101.6
" 15th	.	. 100.8	101.6	" 28th	. . 102	101.6
" 16th	.	. 100	101.4	" 29th	. . 101	102.4
" 17th	.	. 101.4	101.8	" 30th	. . 101.4	100.8
" 18th	.	. 100.8	101.8	" 31st	. . 100.6	101.6

On the 16th of May we received a third lot of ticks from Texas; but as no more cattle were available for experimental purposes, and as there was not any more sufficient time for anything to develop before the close of the term, we could not make any use of them.

However, we made artificial cultures of the micro-organisms found in and upon the ticks.

1. By puncturing the body of the tick with a sterilized platinum needle, and inoculating nutrient gelatin in a test-tube with the blood adhering to the needle. 2. By rubbing the sterilized needle on the body of the tick, and making puncture cultures with what adhered. 3. By putting an entire tick into a test-tube with nutrient gelatin.

In three to four days the cultures from the blood of the ticks were growing rapidly, the entire length of the puncture, but most at the surface, and liquefying the gelatin. Cover-glass preparations showed them to be pure cultures of a short bacillus, about the size of bacillus prodigiosus. They showed a strong tendency to form chains or threads. The puncture-cultures made from the external surface of the tick grew slowly along the entire length of the culture, but best at the surface, and did not liquefy the gelatin. Cover-glass preparations showed micro-organisms resembling ordinary cocci. The cultures produced by putting the entire tick in the gelatin-tube were composed of the same or similar cocci, but growing more rapidly, because more on the surface.

The young ticks, when put on the cow, May 6th, were scarcely as large as a pin's head, but in the course of a week or two they could be plainly felt beneath the hair. They grew rapidly, and toward the latter part of May they were almost full-grown, and could readily be seen adhering to the skin.

Our experiment, made on only one animal, of course, cannot

have the value, and cannot be as decisive as it would have had, and been, if it had been more extensive and been made on a large number of animals, which, unfortunately, were not at our disposal. All that we claim is this: It is one instance in which no signs or symptoms of Texas fever were produced during and beyond the time specified by the advocates of the tick theory as the period of incubation, notwithstanding that all the necessary conditions to produce Texas fever, as laid down by the advocates of the tick theory, have been fully complied with. We will yet state that although the time at our disposal for our experiment expired June 1, the cow has been kept under strict observation until June 12, and no signs or symptoms of Texas fever have made their appearance.

BELLADONNA.¹

BY S. P. BISHOP,
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IN all the great field of medicine there is, perhaps, no drug which possess such a variety of actions as belladonna. Perhaps I ought to add such a variety of definite and decidedly characteristic actions.

Allow me to note at the beginning some of the physical phenomena of the plant which has been so appropriately called "Deadly Nightshade." It belongs to the order *Atropacea*, and grows in the wild state in Great Britain, and enjoys its growth uninterfered with, about hedges, margins of plantations, and in shady and deserted spots. A peculiarity about this plant is its mode of bearing leaves, which below are alternate, while higher up, or nearing its terminal point, the leaves stand out in pairs on the stock, yet while in pairs the leaves may be of unequal size and have a very short petiole. These leaves are smooth, and, though resembling *hyoscyamus* and *stramonium*, are distinguishable from them in that the leaves of *hyoscyamus* are hairy, while those of *stramonium* are much wrinkled. At no time does this plant exhibit so much activity as in June, when the flowering is complete and before the seeds are developed. While

¹ Read at a meeting of the Veterinary Medical Society of the Ontario Veterinary College—session 1894-95.

discussing its activity I might add that the plant grown by home cultivation is quite as active as that found "wild." Here, too, is seen in this respect a typical characteristic as compared with some other plants. Besides making use of the leaves and branches we utilize the roots, which should be carefully dried, and may be secured in Germany as well as in Great Britain.

In this interesting plant are found two alkaloids, atropine and belladonine, the first of which is the only one noteworthy. The both exist as true malates in the plant, and are obtained chiefly from the root by a complicated process.

Atropine when split up chemically is found to consist of tropine and tropic acid, which two, by a synthetic construction, constitute atropine again. Atropine in many respects is physiologically antagonized by morphine, eserine, and strychnine, and should never be prescribed with caustic alkalies, as they are prone to bring about its decomposition.

Many, or, I might say, most drugs possess four well-defined actions on the system, first, an immediate local action; second, an action on or in the blood; third, a specific action, and, lastly, a remote local action; but so much cannot be said about belladonna, as, although it enters the blood, it soon seeks and enters the tissues, producing little or no effect on the blood in its passage through it.

Having thus noted the physical appearance of this most interesting plant, its mode of growth, its medicinal properties, etc., let us now proceed to analyze and systematize its multiplicity of actions on the animal when administered either in medicinal or lethal doses. Belladonna or its alkaloid, atropine, is not absorbed by the unbroken skin, even though suspended in water, but when in combination with chloroform, alcohol or camphor, it is readily conducted by them through the epidermis.

We shall now proceed to administer it locally as well as internally, and note its effects and how these effects are brought about. When applied to the skin it at once depresses the sensory nerve-ending and the bloodvessels are ultimately relaxed though momentarily contracted, thus acting as a local anæsthetic.

Next proceed to the eye and drop therein some atropine, and immediately it paralyzes the endings of the third nerve, which supplies the sphincter of the pupil, and dilatation results, because the opposing sympathetic nerve is unopposed, and the radiating fibres of the iris consequently contract vigorously. Some also

claim that the sympathetic may be slightly stimulated, but it is hard to believe that this drug is so specialized in its action. Thus we see that vision is wonderfully interfered with, long-sighted animals suffering most. Some contend, also, that intra-ocular pressure is diminished, but just the opposite state of affairs exists provided the dose be large.

Having briefly dealt with its action on the eye, we next apply an ointment to the mammary gland, and paralysis of the lacteal nerve termination results, and the arrest of the secretion of milk, if present, follows.

Application to the skin in a proper medium at once depresses the sudoriferous nerves, and anhydrosis follows; even a rash may make its appearance.

Do not tire in your prosecution of the phenomena of this drug, but administer internally and note its marvellous and varied effects. In the mouth we note dryness and dysphagia after its administration, as the result of paralysis of the secretory fibres of the chorda tympani nerve, which checks the secretion of saliva. The respiratory, cardiac, and vasomotor centres are much effected as we shall see. The respiratory centre is powerfully stimulated, and thus the chest movements are increased, and here perhaps is a peculiarity which ought to be noted as well as impressed; first, because herein belladonna departs from its usual line of action, and because this indicates its superiority over opium in relief of cough, spasm of bronchi, etc., which drug tends to paralyze the respiratory centre; but do not forget, however, that a poisonous dose of belladonna will also paralyze this centre. From the beginning you have no doubt observed that belladonna produced its effects by paralysis, and as we proceed you shall see the same mode of action; but on the respiratory centre does it depart from this mode, and instead of paralyzing, stimulate. Of course in the two other cases it stimulates as on the cardiac and vasomotor centres, but such stimulation is very transitory, and its effects are produced by the rapidly superseding paralysis of these centres.

In the bowel it greatly increases peristalsis by paralyzing the inhibitory branches of the splanchnics, the inhibitors of the bowel, thus leaving the unopposed accelerators to act.

On the brain we have somnolence and cerebral depression and the irritability of the cord is ultimately diminished.

On review we see the secretions in most instances are lessened,

but the urine is increased, though a lethal dose may be characterized by a desire and inability to urinate. The urea, water and sulphates are increased, but the chlorides are not.

Regarding the temperature, we find it rises at first, but afterwards falls, but under small doses there is generally a rise of temperature, though large doses certainly lower it.

The irritability of motor nerves is much diminished under this drug, but the voluntary muscles remain unaffected.

Nutrition is increased by belladonna, evidently through the increase in the circulation and respiration, and thus a rise of temperature, but it falls as the circulation fails after large doses.

We have already seen that it is a sedative on the brain, consequently its administration in delirium of fevers is decidedly common-sense. Just here we might, with propriety, institute a comparison between this drug and opium, with which it is allied in some respects, though the distinctions between the two are various.

Belladonna again exerts its paralysis and the inhibitory ganglion of the heart suffers this paralysis, and acceleration results, while opium slows the heart.

The respiratory centre is stimulated by atropine, while morphine depresses it, and lastly atropine dilates the pupil while morphine contracts it.

Broad and liberal knowledge, as well as research, would certainly add much to this dissertation, but just here I must leave this interesting subject, and shall be pleased if I have in some measure thrown any light upon its properties or aided you in any way to give it its proper place in the great world of medicine.

Mules and oxen can work much longer without food or water than horses, and can subsist under harder work on less food, coarser provender, than the horse.

An elephant arrives at working age at twenty years and lasts until he is eighty. As much as 1200 pounds can be placed on his back for conveyance. When used for army purposes as a beast of burden, his ration usually consists of twenty-five pounds of wheat flour mixed with one pound of molasses, together with several hundred pounds of hay, green food, oftentimes sugar-cane. Thirty gallons of water are consumed by an average sized elephant in twenty-four hours.

SELECTIONS.

TUBERCULOUS INFECTION THROUGH THE ALIMENTARY CANAL.

WHEN a truth, whether scientific or other, goes against the interests of a large and powerful class of the community, it is generally ignored or resisted till a more powerful class enforces its recognition. For the last thirty years farmers and butchers have been roughly disturbed by mere scientists, medical observers, and veterinary surgeons, who have come to the conclusion that it is not safe for man or beast to feed on tuberculous products.

At first the observations of Villemin, Chauveau, Gerlach, Günther and Harms, Toussaint, Peuch, Bollinger, Jöhne, etc., though conclusive enough, were not accepted as quite convincing by a number of authorities, because there was no easy criterion by which tuberculous lesions could be recognized.

Even after Koch's demonstration of the presence of a tubercle bacillus, not only in human tuberculous lesions, but also in those of the lower animals, many who considered themselves experts tried to evade the logical consequences of this discovery.

At the present time opinions are still divided, and thereby the work of the medical officer of health is rendered so difficult that he may at times be hindered from serving the public interests which he has to protect.

The evidence which has been adduced to prove that the flesh of tuberculous animals was not capable of causing tuberculosis, though very interesting, cannot shake in the least the observations on which the opposite view is based. It is with the object of showing the bearings of the arguments brought forward by both sides that I will now attempt to give a short account of the present state of this question.

It will be taken for granted that the infectiousness of tuberculosis has been fully demonstrated by the work of Villemin, of Koch, and of their followers. Tuberculosis of the lower animals is due to the same micro-organism as in man, and it can be communicated from man to the lower animals and from the lower animals to man.

This statement is not affected by the fact that there are certain differences in the morphology of the bacillus and in the character and mode of extension of the lesions in the two cases.

We need not either discuss the question of heredity as a causal factor in tuberculosis. It can be safely admitted that an exceedingly small number of children are affected at birth, and the same may equally truly be said of the young of the lower animals. The few cases of fatal tuberculosis recorded by Hiller, Shleuss and Grothaus, Jöhne, Landouzy and Martin, etc., though they show that it is impossible for a foetus to be infected in utero, are of little importance when compared with the statistics given by Boltz, for instance, in his "Inaugural Dissertation." Out of 2576 children whose bodies were submitted to a post-mortem examination in Kiel, between 1873 and 1889, there were 424 cases of tuberculosis.

Woodhead has given, on a smaller scale, results equally significant of 127 cases of tuberculosis.

Such statistics, and others not mentioned here, indicate clearly that tuberculosis usually begins after birth, and that it is a rare disease in the early months of life. There is ample evidence to prove that among the channels of infection the air-passages are most important; a large number of children must, however, become infected through their alimentary canal.

In a series of over one hundred experiments made by myself I have found that tuberculosis of the mesenteric glands occurs very late, if at all, in guinea-pigs infected through other channels than the alimentary canal or the peritoneal cavity, and when the mesenteric glands are affected in such cases all the other organs are in a state of advanced tuberculosis; but where the seat of inoculation is in the abdominal cavity, the mesenteric glands are, on the contrary, the first organs affected. In fact, it is generally possible, by carefully dissecting out the lymphatic ganglia, to find the part through which the animal has been infected.

To give only a practical instance of the results obtained it will be enough to mention here that I have found a single prick of the tongue, of the lips, or of the fauces with a needle loaded with tubercle bacilli to be followed by marked tuberculosis of the cervical ganglia, the lesions in such a case resembling closely those observed in the neck of scrofulous children.

In the presence of such observations it is only right to assume that when the mesenteric glands are the only organs affected with tuberculosis, or when they are much more affected than other organs, the channel of infection must have been the alimentary canal.

Judging from the statistics recorded above it is evident that this occurrence is far from infrequent in children. In corroboration of this fact we have seen that children begin to be liable to tuberculosis after they had reached the age of six months (*i. e.*, after most of them have begun to feed on cow's milk, or foods other than the maternal milk).

There is, however, more than circumstantial evidence to show the danger of tuberculous food. Chauveau, Gerlach, Harmz and Günther, Jöhne, Nocard, Peuch, Viseur, etc., have shown that tuberculous organs and flesh when given to various kinds of animals were capable of causing tuberculosis beginning in the abdomen. Gerlach, Klebs, Jöhne, Bollinger, Baumgarten, Peuch, Bang, etc., have proved the existence of the same danger in connection with the milk from tuberculous cows.

Nocard has pointed out that when cats are fed with muscle free from tuberculous glands, and not accidentally contaminated with tuberculous products coming from other organs, tuberculosis is never obtained. This is true even when young kittens are used, though these animals are easily rendered tuberculous by the ingestion of small quantities of tuberculous lungs, liver, and lymphatic ganglia.

In support of Nocard's contentions we have the experiments of Peuch, Galtier, and Perroncito, showing that muscular tissue taken from tuberculous animals, but free from tubercular lesions, is practically incapable of producing tuberculosis by ingestion.

There is no doubt as to the danger of eating tuberculous food, but there is a divergence of opinion among authorities as to the parts of an animal which are infectious.

Various attempts have been made to prove that though this is not always true, the blood can at times contain enough tubercle bacilli to render any part of the body infectious. This, however, has been shown by Bang, Nocard, and McFadyean to be an extremely rare occurrence.

The only thing which has been clearly proved is that whenever an organ shows distinct tuberculous lesions this organ is capable of transmitting tuberculosis by inoculation or ingestion.

It is, therefore, interesting to find what is the prevalence of tuberculosis in the various organs of bovidæ which, of all the animals used for food, are most liable to tuberculosis. According to Nocard, the organs of oxen and cows are affected in the following order of frequency: Lungs and pleura, 40 per cent.; lungs alone, 20 to 25 per cent.; pleura and peritoneum alone,

15 to 20 per cent.; lymphatic glands, genital organs, mammae, bones, articulations, 15 to 25 per cent.

Nocard insists upon the fact that it is not very unusual to find lymphatic ganglia affected without there being any trace of tuberculosis in the viscera through which, he assumes, the tubercle bacilli have penetrated into the organism. This is not only true of the thoracic and abdominal ganglia, but also of those which are outside the cavities, notably the cervical and pharyngeal ganglia.

A slight knowledge of the distribution of lymphatic ganglia in the body will make it evident that there is hardly any joint of meat, as cut by the butcher, which does not contain one or more lymphatic glands. These ganglia have often been found to be diseased not only in the neighborhood of the great serous cavities, but also in the extremities. This may even be the case without the meat showing any evidence of the existence of a wasting disease; in fact, tuberculous glands have been found in meat apparently of prime quality. Such an invasion of the peripheral lymphatics is, of course, generally most extensive in advanced cases in which wasting has taken place; the appearance of the meat in such instances easily betrays its unsoundness.

If this invasion of the lymphatics is taken in consideration, the careful experiments by which several observers had tried to prove that the flesh of tuberculous animals is not infectious, by carefully separating the muscular from the surrounding tissues, are not of much practical value, notwithstanding their great scientific interest.

But it is not only through the presence of tuberculous glands in their midst that meat from tuberculous animals is rendered dangerous. Butchers, when they dress a carcass, do not, like the careful experimenter, sterilize their fingers and knives at each step of the dissection; they do not sterilize the walls, tables, hooks, etc., which they use after these have come in contact with tuberculous carcasses or offal. On the contrary, the meat constantly runs the risk of being contaminated with discharges or products coming from the tuberculous organs which no doubt are condemned and destroyed, but leave traces behind them.

What is, therefore, the practical use in experiments on the infectiousness of flesh from tuberculous animals, of muscles or blood, removed or collected under conditions which cannot be observed in the abattoir?

It is fortunate for us that it is only when the tubercle bacilli are pretty abundant that they are capable of causing disease in a healthy adult person. But in weak or young individuals the danger is much greater, and there is always a possibility that some bone or hard particle infected with tuberculous matter may wound the mucous membrane of the mouth, fauces, or some other part of the alimentary canal, and bring about tuberculosis just as in my experiments with the tuberculous needle.

It is not easy to prove the actuality of the danger by quoting cases in which tuberculosis has been undoubtedly the result of the ingestion of tuberculous meat.

The statistics to prove the frequency of abdominal tuberculosis in children appeal only to those who have made a large number of experiments and observations.

Even in those cases in which meat might be suspected to be the cause of tuberculosis it would be difficult to trace clearly the piece of meat which should be incriminated, and afterward to establish clearly its history; and if this could be done it is evident that the carcass from which the joint has been obtained would have long been beyond the reach of scientific investigation when tuberculosis had made sufficient progress in the victim to be evident.

With regard to infection by milk, however, it is sometimes possible to find a case showing clearly that infection has been due to the milk.

Demme mentions four cases occurring in children of healthy parents. Those children were clearly proved to have been fed on uncooked milk from tuberculous cows.

Ollivier and Boutet, quoted by Arloing, record an outbreak of tuberculosis in a boarding-school. Cows were kept in that establishment. One of the cows supplying milk during a certain period was tuberculous, and during that time six of the children became tuberculous.

Stang gives details of another case. A boy, aged five years, born of healthy parents, died from advanced tuberculosis of the mesenteric ganglia and miliary tuberculosis of the lungs. It was ascertained that he had been in the habit of drinking warm uncooked milk from a cow suffering from tuberculosis, as was proved by examination of the viscera after the animal had been slaughtered.

A still more telling instance is recorded by Dr. Gosse, of Geneva. His daughter was, at the age of sixteen years, a strong

and healthy girl, and there was no trace of tuberculosis in the family. About ten months before her death she began to manifest signs of some mysterious illness, which caused gradual wasting, and ultimately the patient died at the age of seventeen years. At the autopsy it was found that the poor girl had suffered from intestinal and mesenteric tuberculosis. It was then remembered that she used, when spending the Sundays on a small estate where cows were kept, to drink warm milk almost straight from the cows. These cows were in consequence of this examined; four out of five were found tuberculous, and of these two had tuberculous udders.

Such instances of infection, though few, are sufficiently clear to establish the risks attending the use of tuberculous food. It may be argued that meat is usually cooked before being eaten, and that the virulence of the tubercle bacillus is in this way destroyed; but it must be remembered that a large proportion of the meat used for food is either roasted or grilled, and that the internal parts of the chops, beefsteaks, or roasted joints are seldom sufficiently cooked to kill bacilli.

Chauveau and Arloing have shown that unless a tuberculous piece of meat has been kept all through at a temperature of 70° C. for about half an hour it is still capable to infect animals. Now whenever the inside of a joint is still red it can safely be said that the temperature of the red parts has not even reached 70° C.

Bang has shown that after milk has been kept at a temperature of 85° C. for about five minutes any tubercle bacilli which it might contain are killed. To obtain such a temperature in the centre of an ordinary joint much more prolonged cooking than is generally desired should be allowed.

Such are the main facts and arguments which may be relied upon to prove the danger connected with the consumption of tuberculous meat. Many more observations and experiments might have been quoted, but it has been thought that they could hardly be more convincing than those alluded to in the text. Only few bibliographical references are given, because most of the information wanted will be easily found in works such as those of Arloing and Nocard, and also in papers by Woodhead and McFadyean.

It is hoped that the facts brought together in this short *exposé* will be enough to convince the reader of the seriousness of the matter at issue, and of the real risk which is incurred if

tuberculous meat is allowed to pass as fit for human food by meat inspectors.

(The report of the Royal Commission on Tuberculosis not being available yet to the public, I regret not to be able to take advantage of it in support of my contention, but it may be said in a general way to establish the views here advanced.)—SHERIDAN DELAPINE, *Professor of Pathology, Owens College, in The Veterinary Record*, June 1, 1895.

PROPRIETARY REMEDIES IN VETERINARY PRACTICE.

IN the present scientific age it would naturally be imagined that every remedy or medicinal agent employed in the treatment of disease should have its precise action perfectly familiar to the prescriber.

He should be aware of the indications for the selection of the special medicinal agent, and should possess a clear perception of the manner in which therapeutic results are to be brought about.

This being the case, it is apparent that the scientific practitioner will not prescribe any agent or combination of agents the composition and actions of which are unknown to him.

It is not necessary, however, that he should be acquainted with the exact chemical preparation of the medicinal agent, or of its convenient form and combinations. For example, take that useful and convenient preparation known as chlorodyne; we are aware that it contains a certain proportion of morphine to the ounce, also of spirits of chloroform, and any other carminative that we may desire to add.

This we would not class as a proprietary medicine, because we are aware of its contents, although various wholesale chemists may claim special virtues for their preparations of the compound. Again, take that excellent antiseptic known as creolin; we are aware of its derivation, although we are not acquainted with the chemical processes necessary to prepare it; but from practical experience in its use we know its value as an antiseptic, both internally and externally, and its superiority to the time-honored carbolic acid.

But there are remedies advertised, with long-sounding titles, concerning which we are utterly ignorant of the composition or of the physiological actions, and it is with feelings of surprise that we note testimonials from practitioners in favor of the medicinal virtues of these preparations.

Still greater should be our surprise to find that patent preparations publicly advertised contain testimonials from qualified veterinary surgeons.

It was only lately that I saw some of these testimonials in a pamphlet issued by a certain firm, while in the same production was to be found in many places illustrations of cases in which one and two "vets" failed to cure; but the preparations advertised brought about a complete recovery. Surely it is high time that practitioners should cease to employ or recommend patent remedies.

The Pharmacopœia contains sufficient medicinal agents to select from without descending to adopt the nostrums of veterinary chemists.

But it certainly appears strange that the professional journals should contain advertisements of these empirical compounds, and we read at present an advertisement of a celebrated French "Red Ointment," which is "the only known substitute for the hot iron;" also of a "Black Mixture," which is a "specific for broken-kneed horses;" and other abominable announcements of a similar nature, finishing up with the insulting sentence, "Customary allowances to veterinary surgeons."

Such advertisements should not be inserted in journals which claim to represent scientific veterinary medicine and surgery, and it is only to be hoped that these have got no lay readers.

We all know to our cost the enormous amount of injury done to practitioners by the employment of patent preparations. There is an innate desire in the minds of all horse- and stock-owners for patent embrocations, red drenches, mange cures, etc., and they will allow these empirical agents a far longer time to produce effects than they will permit professional attendance; and, as for expense, this is no object so long as the preparation has a high-flowing name, a good color, and a characteristic odor.

In country districts especially, the amount of patent cure-alls sold is enormous, and it frequently happens that these are freely tried before professional assistance is sought.

Then we have dispensing chemists advertising and selling all forms of veterinary medicines, thus taking away the legitimate profits of the practitioner.

Professional fees in a country district, exclusive of medicines, are not by any means proportionate to the work done and expected; hence, it behooves us to protect our interests by supply-

ing our own medicines and endeavoring to convert the tastes of our clients from patent preparations.

No doubt, it is sometimes refreshing to be told that we prescribe far too much medicine, and that we should depend more on hygiene, etc., in practice; this fact we must admit in many instances, but we fear that the millennium of professional progress must be reached before we can impress the correctness of this theory sufficiently on the owners and attendants of animals.—E. WALLIS HOARE, F.R.C.V.S. (Cork), in *The Veterinary Record*, June, 1895.

REPORTS OF CASES.

TEMPORARY PARALYSIS OF PERISTALSIS FOLLOWING INJURIES BY TROLLEY.

BY W. HORACE HOSKINS.

THE subject, a gray gelding, about thirteen years old, had been in the possession of present owner about eight years, and never lost a day from sickness in that period.

On the evening of June 4th, while being ridden from the blacksmith shop, was struck by a trolley-car on the right hip and croup, knocked down and pushed along by the car some thirty feet. On regaining its feet did not seem to be much hurt; was walked to its stable and subsequently fed. Feed, as well as hay, remained uneaten in the morning, when the horse was found in slight pain, and evidences presented themselves indicating that it had been uncomfortable during the night.

On the morning of the 5th the horse was brought to my sanitarium, and an examination revealed the complete absence of sound indicating peristalsis, with some loss of power in the hind quarters, and recurring spasmodic attacks of pain, horse lying down, pawing, and looking around at the side. An anodyne drench was given, and temporary relief followed shortly after, but the pain recurred again and again every two or three hours for some three days. After the third dose was given the anodyne mixture was administered in pint draughts of linseed oil, until some two quarts of oil had been given.

After the first few hours in the hospital, during which one or two small droppings of manure occurred, accompanied with much difficulty in voiding and arching the back, no fecal matter was voided for some seventy-two hours. After waiting for the action of the oil an eight-drachm ball of aloes was administered, which, in twenty-four hours, gave rise to much uneasiness and distress, followed by ineffectual efforts to unload the lower bowel. In addition to above treatment clysters of glycerin were repeatedly tried ineffectually. Some thirty or more hours after administration of aloes ball, indications of inability to unload the rectum were evident, and an examination revealed the existence there of a large mass of dry fecal matter distending the rectum to an unusual extent. For some forty-eight hours all fecal matter reaching the rectum had to be removed by hand. When received at the sanitarium, on the 5th, the horse weighed 1060 pounds, on the 10th weighed 1035 pounds, was discharged on the 15th, weighing 982 pounds, with instructions to give light work for a week.

AN OBSCURE CASE.

BY A. W. CLEMENT, V.S.

A BAY gelding, nine years old, one of a pair of coach horses, was taken suddenly ill in the afternoon. This animal had had only walking exercise at the halter for two weeks previous, as his mate had been ill with pneumonia.

On the morning of the day that he was taken sick the horse was particularly playful. At about four o'clock in the afternoon the coachman went to the livery-stable where they were kept, and noticed that the horse was very dull and breathed heavily. I was immediately sent for, and arrived at the stable about six o'clock. I found the animal greatly depressed, respiration labored, the heart beating tumultuously, and the horse hiccupping incessantly. The pulse 60, and very irregular; temperature, 105° ; lungs normal.

I suspected a severe attack of influenza, and had the animal removed to my infirmary. Broken doses of aconite soon had the heart under control, and the animal when left for the night seemed fairly comfortable. The next morning it was seen that his hind legs were quite stiff; respiration, 35; pulse, 60, weak, but regular; temperature, 105.2° . Stimulants and febrifuge

prescribed and no attention given to stiffness of the hind legs, as it was concluded to be muscle-soreness, so often observed in cases of influenza, and which generally disappear as the disease progresses.

On the third day after admission to the hospital the fever had quite disappeared, but the respiration was still about 30, and the pulse 55 and fuller. The lameness had disappeared to a very great extent from the hind legs during the night, but extreme lameness with intense pain had developed in the near fore-leg. The flexor muscles were very tense, and he would not put his heel to the ground. When made to move he would hobble on three legs. The foot was thoroughly examined for a foreign body, but nothing of the kind was to be found. A diagnosis of acute rheumatism was made, and the animal was placed on salycilate of soda for twelve hours in doses of 3j every three hours.

On the following day there was considerable swelling, hard and very tender on pressure, extending from the distal end of the humerus, half way up the scapula, and including the shoulder joint. This swelling lasted for about two weeks, then gradually disappeared; but when the horse left my place, some six weeks after he was taken sick, he was still unable to put his foot to the ground, and dragged that leg as if paralyzed. There was great atrophy of the shoulder-muscles, but at no time after the swelling had disappeared so that an examination could be made was there any evidence of fracture or dislocation. At no time during the period that he was under my care did he respond in the least to salycilates. Liniments and blisters were applied locally without any good results. I understand from the coachman that the horse has improved but slightly since he has been at pasture. The urine was examined some two or three times and found to be normal. There was no evidence of osteoporosis anywhere that could be detected. The flexors of the forearm were contracted most of the time, but occasionally they would relax when he would extend his foot as in navicular trouble. At no time was there any heat or tenderness about the foot, though poultices were applied often and the hoof kept in good condition. Was this lameness a purely local affair or was it of a rheumatic nature?

CLINICAL GLEANINGS.

THE internal use of sulphur is again strongly urged in diseases of the skin of animals, and is considered by some sheep-raisers of Cape Colony more effective in these animals and less dangerous every way than the sheep-dips in general use. It is suggested that it may be given mixed with the usual allowance of salt when required.

THE use of salicylate of soda and acetanilid in half-drachm doses each, given every two to four hours, has proven very effective in the treatment of rheumatism and rheumatoid influenza at the Philadelphia Veterinary Sanitarium. In those of a muscular character the results have been quick and radical, while those which were articular in character were less rapid, and with one exception finally yielded.

COMMENCEMENT EXERCISES.

OHIO STATE SCHOOL OF VETERINARY MEDICINE.

The Ohio State School of Veterinary Medicine connected with the Ohio State University at Columbus, Ohio, held their commencement exercises on June 11th and 12th. The following list of graduates received the college degree of D.V.M.: Frank Alexander Hamilton, Pennsylvania; Rollo Nooman Mead, Wood County, Ohio; Norman C. Powell, Columbiana County, Ohio; Frederick Priest, Licking County, Ohio.

UNIVERSITY OF PENNSYLVANIA—DEPARTMENT OF VETERINARY MEDICINE.

At a public commencement, held Thursday, June 13, 1895, at the American Academy of Music, the degree of Doctor of Veterinary Medicine was conferred by Charles C. Harrison, A.M., Provost, upon the following candidates, after which an address was delivered by Horatio C. Wood, M.D., LL.D., Professor of Materia Medica, Pharmacy, and General Therapeutics, and Clinical Professor of Nervous Diseases: R. Markley Black,

Cecilton, Md.; Charles W. Boyd, Allegheny City, Pa.; Marsh L. Brackbill, Strasburg, Pa.; Frederick L. Felber, Baltimore, Md.; Bert Hagenbuch, Mahanoy City, Pa.; John R. Hart, Philadelphia; Edwin Hogg, Kirkwood, Pa.; Ulysses G. Houck, Berwick, Pa.; Wilmer B. Kille, Masonville, N. J.; J. Stewart Lacock, Allegheny City, Pa.; W. Walter Martin, Philadelphia, Pa.; James M. Mecray, Maple Shade, N. J.; Harry E. Oesterling, Wheeling, W. Va.; William P. Phipps, Lionville, Pa.; William J. Reagan, Philadelphia, Pa.; Joseph C. Robert, B.S., Centreville, Miss.; Willis B. Stauffer, Philadelphia, Pa.; Benjamin M. Underhill, Knoxville, Iowa.

The J. B. Lippincott prize of \$100 for the best general average in the three-years' examinations was won by Ulysses G. Houck.

An écraseur offered to students of the second-year class passing the best examination in veterinary anatomy was won by Herman A. Christian.

AMONG THE COLLEGES.

VETERINARY DEPARTMENT, OHIO STATE UNIVERSITY.

No more painful news has come to us, as editors and willing promoters of every movement to advance the standard of veterinary education in America and to aid and succor the interests of every veterinary school whose aims and purposes are directed toward the achievement of higher education, than the announcement at this time that the Veterinary Department of the Ohio State University at Columbus, Ohio, has closed.

Established almost wholly through the untiring efforts of Prof. H. J. Detmers, upon a broad scale, a thorough curriculum, and gaining year by year a strong position, a well-recognized place, and a future destiny that was to redound to the honor and glory of those whose whole energy and interest were wrapt up in its work—equally as high an honor to the profession—we regret exceedingly the unfortunate circumstances that led to its closure.

Most of all are we pained to learn that the question of its expense as a department was one of the chief causes that loses to the profession this well-founded institute of learning, because

no State could be said to have greater interests at stake in the live-stock industry than Ohio, and no school was destined to turn out a better corps of men calculated to solve these all-important questions for her people than those schooled at this institution.

Those who had the pleasure of meeting Prof. Detmers at the Congress of Faculties of the Veterinary Colleges of North America will recall his earnest appeal and efforts for a high minimum standard, and when we subsequently learned that one of the chief veterinary instructors was abroad, better fitting himself for more thorough laboratory and bacteriological work, we were filled with rejoicing at the promise of another school whose work was to be of such a high character that it would strengthen the hands of the National Association in leading higher veterinary education in America.

We sincerely sympathize with Prof. Detmers, whose life-work and future were so completely wedded to this work, and we sincerely regret that its closing will cost the veterinary profession as teachers the loss of Professors Paul Fischer and D. S. White, the former we understand having already accepted a much more lucrative position in connection with the University of Utah; while the latter will perhaps be associated in bacteriological work in the Sheffield School of Science at Yale University.

After ten years of faithful work in establishing the Veterinary Department, we understand that the purpose is to strengthen the departments of Law, Pottery, and Astronomy. We were not aware that these branches of learning so far outranked in importance in Ohio those so much more closely allied to the chief interests of her people, viz., agriculture.

KANSAS CITY VETERINARY COLLEGE.

A complete reorganization of the Kansas City Veterinary College has taken place on a very thorough basis, in anticipation of the coming year's college work. A very distinctive feature of this change, and one to which all veterinarians will give hearty accord, is the effort to place veterinarians at the head of all the departments of instruction wherever the same could be accomplished without impairing the object of attaining a higher course of instruction. Some five of the instructors of last year, graduates in human medicine, have been replaced by some six veterinarians on the teaching staff. The following

well-known veterinarians will be among the corps of instructors during the college year of 1895-96: Dr. John Forbes, M.R.C.V.S. George C. Pritchard, V.S., recently State Veterinarian of Kansas; Robert H. Harrison, D.V.S., graduate of the American Veterinary College, and the highest-honor man of his class in 1881 at that school; John Airth, M.R.C.V.S., recently appointed Inspector of the Bureau of Animal Industry; Silas S. Brooking, M.D., D.V.S. In addition to these there has been added the names of Leon Rosewald, M.D., Leo A. Schaeffer, M.D., and Nathan McVey, M.D. These additions make a corps of instructors composing the Faculty numbering eighteen, covering every subject that pertains to the teaching of veterinary science. All applicants for admission as students without college certificate or diploma, must pass an examination in accordance with the rules laid down by the Associated Veterinary Faculties of North America. A graded course of three years, not compulsory, has been planned, and is strongly urged upon the students by the Faculty.

With this added strength and many changes we feel assured that the course of instruction the coming year at this college will be better than ever, and we can only regret that the Board of Directors have not seen their way clear to establish a compulsory three years' course. The action of Pennsylvania and New York State in their new laws pertaining to future practitioners in these States should be measured at their full value, and they have set the pace for others to follow.

McKILLIP VETERINARY COLLEGE.

McKillip Veterinary College's initial year has been a very encouraging one to its projectors, and their announcement for the college year of 1895-96 betokens a confidence that is extremely gratifying. The severe entrance examination inaugurated will be rigidly maintained; the college fees have been raised from seventy-five to one hundred dollars, and a number of changes have been made in the Faculty, all of which tend materially to strengthen the school in many ways.

In conjunction with the college a bacteriological laboratory has been established for the manufacture of diphtheria antitoxin and several other blood-serum preparations. Dr. G. E. Krieger, the bacteriologist, will give in conjunction with the third-year course a special course of instruction in serum-therapeutics. A

course in the theory and practice of horseshoeing for shoeing-smiths has been established. Dr. J. H. Honan, M.D., D.V.S., graduate of the Rush Medical College, Chicago, and the American Veterinary College of New York City, has been elected to the Chair of Physiology. Dr. F. T. McMahon lectures on the subject of "Meat and Milk Inspection," and H. W. Wright, LL.D., on "The Laws of Warranty and Evidence."

A post-graduate course will be established after the first-year class has been graduated.

The degree to be conferred has not yet been decided upon, pending action of the Association of Faculties. Having only a junior class, no commencement exercises were held this year.

The McKillip Veterinary Medical Association, composed of the students, has already been established in conjunction with the school.

In the catalogue are printed the requirements for admission to the United States Veterinary Medical Association, a feature we think that might be well adapted by other schools.

VETERINARY DEPARTMENT, UNIVERSITY OF PENNSYLVANIA.

Out of a class of twenty-one a class of eighteen was graduated in June. Many of the first- and second-year boys failed in the very severe examinations exacted of them. Out of the fifty free scholarships granted to graduates of the city High School of Philadelphia by the University of Pennsylvania, three for each of the coming two years will be available in the Veterinary Department. The commencement exercises were made more pleasant by a reunion of the graduates around the banqueting table at the Bingham House, Philadelphia.

THE written examinations of the Royal College of Veterinary Surgeons in Scotland were held in Edinburgh and Glasgow simultaneously with those held in London, on Monday, May 13th; 190 candidates were present in Edinburgh, and 65 were present in Glasgow.

In Class C of final examination 79 candidates presented themselves in Edinburgh, and of these 36 passed; while in Glasgow 18 presented themselves and 10 passed. With the exception of one gentleman, who was not of age, all those who passed were admitted members of the Royal College of Veterinary Surgeons.

The Faculty of the Kansas City Veterinary College contains twelve veterinarians and six medical doctors, while two of the veterinarians are also M.D. graduates.

The Indiana Veterinary College has undergone a reorganization in its Board of Trustees and Faculty. E. L. Booth, M.D., and John W. Claypool have been succeeded by Drs. George H. Roberts and H. R. Macaulay as Trustees.

The following additions have been made to the Faculty: J. F. Roe, D.V.S., Anatomy, succeeding W. B. Craig, V.S.; C. Jones, M.D., Physiology, succeeding Frank Wynn, M.D.; C. J. Bell, V.S., Surgery, succeeding M. Y. Shaeffer, D.V.S.; W. Klotz, V.S., Obstetrics and Animal Castration, succeeding F. A. Balser, V.S., and L. A. Greiner, V.S. Lameness and Shoeing have been added. George E. Hunt, D.D.S., M.D., General Pathology and Morbid Anatomy; and J. O. Greeson, V.M.D., Hygienic Breeding and General Management of Domestic Animals, have been dropped from the roll of lecturers. R. Ebbitt, M.R.C.V.S., connected with the Meat Inspection Department of the Bureau of Animal Industry, has been added to the corps of lecturers on Meat and Meat Inspection, this branch having been formerly associated with the Chair of Cattle Pathology and Contagious Diseases, and filled by T. L. Armstrong, D.V.S.

Two features of the school still remain that we wish were otherwise—that of the early age (seventeen years) that students are admitted, and the two years' curriculum of scarcely six months each, the time for examinations deducted. The entrance examination remains the same.

We are glad to learn of the return to his first love, that of the veterinary profession, of Dr. C. H. Magill, of Philadelphia, who for the past two years has been engaged in commercial pursuits.

Dr. R. S. Huidekoper, of 154 East Fifty-seventh Street, New York City, has opened an office and infirmary at 20 Weaver Street, Newport, R. I., for the summer season.

Among those who received the degree of M.D. at the recent commencement of the Medical Department of the University of Pennsylvania was John J. Rectenwald, V.M.D., Pittsburg, Pa., a graduate in veterinary science from the Veterinary Department.

EDITORIAL.

ON TO DES MOINES.

In two short months the active, progressive veterinarians of the United States will have turned their faces toward Des Moines to take part in what now promises to be the most important meeting of the United States Veterinary Medical Association. It goes to Des Moines at this time for many reasons. First, and an all-important one, is, that for the first time it will be said of our organization that it went West for its annual gathering. While we have been to Cincinnati and Chicago, it has oft-times been repeated that these cities could hardly be longer considered as Western cities, and that many of the members who met with us at Chicago traveled as far and longer distances west of the Windy City than we in the extreme East had done to reach Chicago. Another reason, better and stronger than this, that we go at the solicitation and wishes of a large body of the profession in the Missouri and Mississippi Valleys, who are among the most progressive and aggressive members of the profession in our land, and Iowa to-day stands at the head of these several States, a wonderfully strong centre of Association activity. We go at this time to join hands with our Western colleagues at the broadest territorial solicitation ever filed in the history of our organization as a plea for the place of meeting. We will there receive the heartiest welcome and most sincere reception that it has been our lot to receive west of the Alleghenies, and we will there sink forever the lingering reflections that we were not a national organization save in name. It will be a final step to decide whether we shall realize that long hope, whose conception and birth attained announcement through that ever-faithful, zealous member and officer, our honored Treasurer, "Shall we go to California in 1897?" Des Moines, in 1895, will decide the Mecca of '97, and California has already spoken her heartfelt desire and wishes, and sends to us in September her delegate, a representative veterinarian among her many worthy members of our profession. She sends to mingle with us one of her young men, a strong and faithful Association veterinarian, and whose zeal and interest in the pro-

fession is as broad and deep as the State he will represent is rich in earnest, strong, professional votaries.

We go to Des Moines at a peculiar epoch in the history of the growth of our profession, just as it is emerging from one of the most trying crises in our national history, and just on the eve of a new era of activity, following the most severe slump in values of horses, our chief support in general practice, that this or any other country ever witnessed, but which time will prove held many blessings in disguise for us.

We will there meet to consider questions of the most stupendous importance to our people and to ourselves. The future of the veterinarian lies almost completely in the field of sanitary science, and this means all-important questions for us to decide in the best methods, the most economical plans, the greatest safety to our people, and the highest preservation of the health and commercial values of the great interests we represent and guard. It reaches further, it touches our influence and power in National, State, City, Town, and Borough legislation, that only wise laws may be adopted and executed on these all-important questions. It speaks to us in no uncertain tones as to the deep and earnest interest we must continue to take in our veterinary educational institutions and the helping hand we must give them that their usefulness and worth may be extended to a wider sphere among our people.

Aside from these great responsibilities that will be considered, we go to participate in one of the most attractive programmes it has been our lot to consider for many years—a programme containing the names of Huidekoper, Schwarzkopf, Harger, Williams, Reynolds, Tait Butler, L. McLean, Trumbower, Niles, and others, each with papers of special importance. We, therefore, appeal to the veterinarians of the States to lay aside the duties of the hour and bend every effort to meet with us at this all-important time; to come and help us discuss and solve these great questions of the day. To our professional friends across the border, some of whom are in our ranks, we send the warmest expressions of our wishes to come and join with us, that we may have the pleasure of your presence, the value of your advice in our discussions, and that the profession may be more of a unit in all that it does on all these great questions of universal interest, wrapped up in our food supply, our professional existence, our national importance among the great army of busy workers.

VETERINARY TITLES.

The near aspect of the coming meeting of the representatives of the veterinary colleges of North America lends interest and importance to the earnest letter of Professor Schwarzkopf on the all-important subject of a single title or degree for the American veterinarian. This has long been a vexatious question among American veterinary colleges, and new schools have only added more uncertainty and confusion as to the relative value of the different titles conferred by the various schools; and the disinterested public, on this technical point, have generously concluded that the veterinarians with a degree must be of a single kind and all well-equipped men, or of no worth at all, according to their individual experience with a single veterinarian whom they have employed upon a single occasion. When the degree of an American veterinarian represents a minimum course of instruction in well-equipped institutions, with trained instructors, of a period of study of three college terms of not less than six months each, then will the degree represent something tangible to the average American public.

A MORE CONFIDENT PUBLIC GRADUALLY DEVELOPING.

The many important centres of our country that have already considered the urgent necessity of a more thorough inspection of their meat and milk supply, and have learned through this agitation the relation to public health that these all-important questions occupy, bodes much good to the veterinary profession. It should give great encouragement to our veterinary institutions of learning, for, while it may exact of them a more thorough and broader education of their classes, it insures to their future offspring a new field of work over whose border we are just treading. We wish to encourage wisely, conservatively, and thoroughly the discussion of this subject, for we believe the time is opportune, and a higher, stronger, and truer confidence of the public in our efforts to help solve these questions daily asserts itself on every side. The signs of the times are auspicious, and one of the most earnest efforts of this JOURNAL will be to keep thoroughly posted our readers and the entire veterinary profession of the progress, at home and abroad, of all matters of interest and instruction on this broad subject.

THE New York Association has done well in the list of names submitted for appointment to her Board of Examiners in conjunction with the Board of Regents' Bill, and it will be no criticism of those who may be chosen to say they are no better fitted than those who are not.

A VETERINARY association will be organized in Western Pennsylvania early in the coming autumn, and will work on modern lines. We feel that this is one centre where there is need of a live, strong organization, and the promised movement has our warm support.

U. S. V. M. A.

INCREASED interest is daily being aroused in the coming meeting of the Association, and the frequent additions to the programme of interesting papers and reports promise to increase very much the attendance. The Pennsylvania State Veterinary Association will probably send as delegates Drs. J. C. Foelker, of Allentown, and John R. Hart, of Philadelphia, both of whom will be found among the party leaving Philadelphia on a special car by the Baltimore and Ohio Railroad. Those contemplating joining the special party destined for Des Moines in September next, and who have not had the opportunity of viewing the beautiful scenery and historic grounds through which the Baltimore and Ohio Railroad runs, will have a great treat in store for them, while those who have enjoyed this beautiful ride will look with anticipated pleasure upon the privilege of again revelling in its beauties.

PRESIDENT HOSKINS has appointed the following members of the Association a local Committee of Arrangements for the meeting at Des Moines in September next: Dr. W. B. Niles, *Chairman*, Ames, Iowa; Dr. M. Stalker, Ames, Iowa; and Dr. F. H. P. Edwards, Iowa City, Iowa.

AMONG those who will attend the meeting at Des Moines, Iowa, are Drs. Huidekoper, Robertson, and Gill, of New York City; Drs. Thomas B. Rayner, Pearson, Hoskins, and Harger, of Philadelphia; Drs. William Dougherty and Clement, of Baltimore.

THOSE who have had the pleasure of listening to the several extremely interesting and instructive papers read by Prof. W. L. Williams at the several meetings of the Association during the past several years will be glad to know that the officers have finally prevailed upon him to favor the Association with a paper at the meeting in Des Moines.

CHAIRMAN TRUMBOWER, of the Committee on Diseases, has addressed, as Chairman of that important Committee, over one hundred of the members of the Association, some sixty State veterinarians and members of the State Live-stock Sanitary Boards, and one hundred members of the State Association of Illinois, asking for information and reports as to the diseases prevalent in their respective localities, and such other information as would be of interest in the proper preparation of his report. Such efforts and labor should be well responded to, not only by those specially addressed, but by every member of the profession, all of whom have had something of interest during the past year.

THE proposition to start a party, by specially chartered car, of veterinarians from the Eastern States for our meeting in September seems to have been uppermost in the minds of several of the strong Association members. As the number is limited to twenty-five, those whose names are first enrolled will be insured a place in this pleasant way of journeying.

THERE will not be a dull hour on the programme at the coming meeting of the Association. Among the latest attractive features will be a paper by Professor Schwarzkopf, "The Horse as a Producer of Antitoxins," a subject of very great importance at this time.

ONE of the features of the coming meeting at Des Moines will be a visit to the veterinary department, at Ames, of the Iowa Agricultural College, at the wishes of the trustees and faculty of the college.

EVERY facility will be afforded Eastern veterinarians to reach Des Moines, aside from the special party which will be recruited along the Baltimore and Ohio Railroad, between New York, Philadelphia, and Baltimore, and which will have a chartered car, making only one change, at Chicago, where a fresh car will be afforded.

APPLICATIONS for membership are growing more numerous as the time grows closer for our meeting—one of the best signs of progress. They are well distributed geographically, which is always a sign of strength and general interest in Association work.

AMONG the interesting papers announced for the coming meeting at Des Moines will be one by Prof. S. J. J. Harger, of Philadelphia, on the operation of arytenectomy for roaring. This paper will be directed especially toward determining the value of this operation from a practical point of view and its feasibility as to cost, these points being determined largely by reports obtained from those who have performed the operation.

CORRESPONDENCE.

EDITOR JOURNAL OF COMPARATIVE MEDICINE AND VETERINARY ARCHIVES:

In your last issue you invite opinions in regard to a uniform degree in connection with Dr. Perry's letter on the subject. This gentleman has gallantly defended his own particular degree, but his arguments are not always correct. The "title" of V. S., as such, is not a misnomer, as he claims, because "surgeon" has been used in a general sense as signifying one who treats as well with medicine as with the knife. It is true, however, that "veterinary surgeon" is a pleonasm. The classical Latin "veterinarius" means one skilled in the healing of diseases of domestic animals, a surgeon and physician both. Grammatically, therefore, "veterinarian" is the most correct "title" which we can apply to ourselves. But we must distinguish between "title" and "degree." The English universities, from which our American institutions are largely copied, conferred the degrees of bachelor, master, and doctor. The last degree has originally been bestowed upon distinguished masters and teachers as an honorary token only. In America doctor degrees of all sorts have been given away to illiterate or half-educated men and women, and in consequence this degree has lost its original mark of distinction. We have arrived at a point where simplicity in titles means more than bluffness in degrees, hence the editor of this JOURNAL was correct in recommending

the simple V. S. as a title. Moreover, there is no country in the world which confers the degree of doctor on graduates of veterinary medicine but ours. The attaining of doctor degrees is a separate and distinct feature of university work. If we must have a doctor degree conferred by our American veterinary colleges, let us try to have one as near correct as possible. To my mind it matters little whether the degree is V.M.D., M.D.V., D.M.V., or D.V.S. One is just as poor Latin as the other, none is classical, but all of mediæval origin. It is true that the oldest degree in veterinary medicine, that of the University of Giessen, conferred first in 1796, reads: "Doctor medicine veterinariae." But besides this precedent we have nothing to go after, as far as I know. In thinking over the matter seriously the other day it appeared to me that "V.D." *veterinariae doctor*, would certainly be as good Latin as our American "M.D." *medicinae doctor*. Moreover, it would doubtlessly be the most classical degree, although I have not asked counsel of a philologist. Whether this degree would suit the American instinct, I am curious to know; but it is short, decisive, and correct. As almost all of our American veterinary colleges have different degrees, all, with exception of one, would have to change the degrees, no matter which would be chosen, and if we adopt an entirely new degree no university or college could complain of having been wrongly treated.

In this connection I wish to call attention to the fact that we daily use bad pleonasm in our professional journals, evidently without realizing it. A "veterinary medical association" is something awfully wrong. There is our grand national association with the only title "United States Veterinary Medical Association." A foreigner, not familiar with the American branch of the English language, may break his jaw over this signature. Let us christen this worthy association with an appropriate name, say "American Veterinary Association," or something else correct. Let us begin here with our reform in presumptuous titles.

OLOF SCHWARZKOPF.

MCKILLIP VETERINARY COLLEGE, CHICAGO, MAY 5, 1895.

Illness has forced the retirement from active work of Prof. C. P. Lyman; we sincerely trust that it is of a very temporary character.

PERSONAL.

Dr. L. Pope, Jr., is conducting very active work in State association matters in New Hampshire, all of which tends to strengthen the profession in the Eastern States.

The warm friends of Dr. John W. Gadsden will be pained to learn that he is again seriously ill.

Prof. N. S. Mayo, who has been on the sick-list for some period of time, is again back to his duties.

Dr. Frank S. Billings, V.M., has decided to locate in Worcester, Mass., and will make a specialty of the treatment of barrenness in mares and cows.

Dr. James A. Waugh will be among those who intend taking a post-graduate course at the National Veterinary College.

Dr. J. P. Turner, veterinarian of the Sixth Cavalry, stationed at Fort Myer, Virginia, has been enjoying a month's leave of absence.

Dr. James B. Paige, Professor of Veterinary Science, Massachusetts Agricultural College, will spend a year abroad in pathological and bacteriological work among those well-known laboratories of research. We wish him every success in his prospective great opportunities.

Dr. John Robertson, veterinarian of U. S. Cavalry, is a candidate in the army ranks for a commissioned office.

MARRIAGES AMONG VETERINARIANS.

On June 12, 1895, at the residence of the bride's parents, 1528 Diamond Street, Philadelphia, by the Rev. H. B. Garner, Dr. John P. Turner, of the Sixth United States Cavalry, Fort Myer, Virginia, and Miss Eva Beaumont, of Philadelphia.

On June 20, 1895, at Philadelphia, Dr. Louis A. Mansbach, of 863 North Sixth Street, Philadelphia, was united in the bonds of matrimony to Miss Cora Esslinger, of the same city.

On June 22, 1895, at Sardinia, Ohio, Dr. S. R. Howard, veterinary surgeon, of Hillsboro, Ohio, to Mrs. Irene Klintworth, of Sardinia.

EDUCATIONAL.

Dr. J. H. Wattles, of Kansas City, Missouri, has been investigating the sources of supply of the milk of that city, and has aroused a keen interest in this all-important question among the health officers and city guardians. The commercial aspect of the milk-supply as to any adulterations or robbing of cream has been for some time under the surveillance of the city Board of Health, but the condition of the animals and their environments from whence the milk is obtained did not occur to them as of much importance until awakened by the investigations of Dr. Wattles.

Kansas City is far from being alone in this happy easy-of-mind state of affairs. Almost every large city in the country needs a rude awakening. The city has been asked to appoint a milk and dairy inspector, whose province it will be to examine into the condition of the places of production, the animals themselves, and allow the sale of no milk that does not bear with it a certificate of satisfactory inspection. Dr. Wattles well says to the people and officers of the law of Kansas City that such an inspector should be a well-equipped veterinarian, as veterinarians are the only ones qualified to perform this work properly.

WORTH YOUR KNOWING.

A daily ration for a camel of good size consists of about twenty pounds of dry or green fodder, with about eight pounds of barley flour, the latter made into a paste ball and rammed into the throat. He will carry a burden of 400 pounds and go without water four or five days.

Anthrax has broken out to quite an extensive degree in the grazing districts of Colorado, following the many heavy rains which have prevailed there.

The Philadelphia Milk Inspectors report for the month of June 49,885 quarts of milk inspected; 1360 of this amount condemned as watered, skimmed, or colored.

DISEASES of camels are said to be little understood.

SOCIETY PROCEEDINGS.

MISSOURI VALLEY VETERINARY ASSOCIATION.

THE second annual meeting of this Association was held in Leavenworth, Kansas, at the National Hotel, June 12th. There were present Drs. Hunter and Ernst, Leavenworth; Netherton, Gallatin; Netherton, Carrollton; Biart, Lansing; Harrison, Atchison; Sihler, Stewart, Airth, and Barth, Kansas City, Kans.; Thompson, Olathe; Topping, Paola; Hill, Bray, and Wattles, Kansas City, Mo.

Officers for coming year elected were: *President*, Stewart; *First Vice-President*, Harrison; *Second Vice-President*, Netherton (G. T.); *Secretary-Treasurer*, Hunter; *Censors*, Bray, Hill, Wattles, Sihler, Barth.

Papers were read by Harrison on "Epizootic Abortion in Cattle;" Barth on "Actinomycosis;" Sihler on "Fever;" Ernst on "A Selection of Cattle to Prevent Disease in the Human Family;" and Stewart on "The Various Tape-Worms of Man and Animals."

The following resolutions were passed: That there does not exist at the present time, and has never existed, any pleuro-pneumonia contagiosa among cattle in the State of Kansas. That it is placing the health of the general public in danger to appoint any but graduates of veterinary colleges as inspectors of meat, milk, and dairies, and that we recommend that at least one veterinarian be appointed upon each board of public health.

The meeting will be held in Kansas City, Mo., during carnival week.

J. H. WATTLES,
Reporter.

NEW YORK STATE VETERINARY MEDICAL SOCIETY.

AT the special meeting held in the Lecture-room of the New York College of Veterinary Surgeons, New York City, on June 11, 1895, the roll-call showed a number of veterinary surgeons present. The reading of the minutes of the previous meeting was dispensed with. The President, Dr. R. S. Huidekoper, explained in a few remarks the reasons for calling this special meeting. He said that it was in order to comply with a clause in the bill (recently become a law) wherein the New York State Veterinary Medical Society is required to nominate ten of its members, whose names are to be transmitted to the Board of Regents, who, according to law, are

to appoint five of the ten to act as the State Board of Veterinary Examiners, to hold office for five years.

The following are the ten members who were chosen by ballot of the members present, to be submitted to the Board of Regents from which to make their appointments: Drs. R. S. Huidekoper, Nelson P. Hinkley, Claude D. Morris, William Henry Kelly, John Wende, W. L. Baker, Arthur O'Shea, John A. Bell, J. A. Hanson, and Prof. James Law.

There was also a resolution offered giving notice to the Society that at the next annual meeting there would be a resolution offered to amend the by-laws so as to read that all legally-registered veterinarians in the State of New York be eligible to present their applications to become members of the New York State Veterinary Medical Society. This resolution was accepted and ordered spread on the minutes.

The meeting then adjourned until the next annual meeting, which will be held in the Lecture-room of the New York College of Veterinary Surgeons, No. 154 East Fifty-seventh Street, New York City, September 5 and 6, 1895.

NELSON P. HINKLEY,
Secretary.

NEW HAMPSHIRE VETERINARY MEDICAL ASSOCIATION.

A SPECIAL meeting took place in Concord, at the Eagle Hotel, on June 13th. Dr. Lilico's name was voted upon favorably for membership. A paper was read by Dr. Pope on "The Diagnosis of Tuberculosis," and a discussion followed. Adjourned until the first Tuesday in October.

L. POPE, JR.,
Secretary.

CALIFORNIA STATE VETERINARY MEDICAL ASSOCIATION.

A MEETING of the California State Veterinary Medical Association was held at the Commercial Hotel, Stockton, Cal., June 12, 1895.

The meeting was called to order by the President, Dr. C. B. Orvis, at 2 P.M. Upon roll-call the following members responded: Drs. Orvis, Eddy, Fox, Spencer, Sr.; Lemke, Williams, Hogarty, and Archibald. Visitor, Dr. Eddy, Sr.

Letters of regret were read from absent members.

The minutes of the previous meeting were read and approved.

The Board of Examiners reported favorably on the application of C. L. Megowan, whereupon, on motion, C. L. Megowan was unanimously elected to membership.

Under the head of unfinished business, the election of a delegate to the next meeting of the National Organization was taken up, with the result that Dr. R. A. Archibald was unanimously elected to represent the Association at the next meeting of said organization.

Owing to the fact that Dr. Archibald was elected a delegate, he refused to collect the assessment levied at the last meeting for the purpose of defraying the delegate's expenses.

Dr. D. F. Fox was appointed to collect the assessment.

Under the head of reading of papers, etc., and discussions, Dr. Lemke was called upon to entertain the meeting, which he did by giving a review of the work he was doing toward the prophylactic treatment of anthrax in the central portion of the State, under the direction of the Pasteur Anthrax Vaccine Company. He stated that the above-named company had employed him for the purpose of determining to what extent anthrax prevailed in California, with a view of commencing a warfare on the disease by means of vaccination. He said he desired the co-operation of every practitioner in the State, more especially the members of the Association. He further stated that he had investigated the disease to a considerable extent, and he had about come to the conclusion that there was a difference between the disease and true anthrax, the mortality was not so great. He wished to get an expression from the members present, who had had some experience with the disease, as to their opinion of the nature of the disease. He was unwilling to vaccinate until he was thoroughly convinced of its true nature. He requested the members to prepare specimens of animals that had died from the disease, and forward them to him, so he could have them submitted to a microscopical examination. He went on to give some statistics and data regarding the loss of live stock, the financial loss, and the mortality of the disease.

Considerable discussion followed Dr. Lemke's remarks, and the Doctor was subjected to a rigid cross-examination by most of the members present, all of whom expressed a willingness to assist him by every means in their power.

The next event on the programme was the reading of a very instructive paper on "Bronchitis," by Dr. D. F. Fox, who described the different phases of the disease and the different methods of treating same.

Dr. J. H. Eddy followed with an excellent and carefully prepared paper on "The Circumstances which Modify the Action of Medicine." Both subjects were thoroughly discussed by the members.

On motion by Dr. Spencer, a vote of thanks was tendered the essayists for the able and masterly manner in which they had entertained the meeting.

Under the head of new business, the Chair appointed the following-named gentlemen as essayists for the next meeting: Drs. Spencer, Jr.: Skaife, Pierce, and Shaw.

Dr. R. A. Archibald submitted the following resolution:

Whereas, The live-stock interests of this State are suffering from the malignant influences of contagious and infectious diseases; and

Whereas, The health of the public of this great State is also jeopardized by the presence of said contagious and infectious diseases which affect the domestic animal; and

Whereas, We, the members of the California State Veterinary Medical Association, realizing that this state of affairs is wholly due to the fact that there are no laws on the statute books of this State sufficiently adequate to control the ravages of these contagious and infectious diseases; therefore, be it

Resolved, That the President be and he is hereby authorized and requested to appoint at the next meeting of the Association, which will be held at Sacramento, a committee consisting of three members, whose duty it shall be to wait on or communicate with the Governor of this State, with a view of prevailing upon him to appoint a commission, to consist of one

veterinarian, one physician, one lawyer, one dairyman, and one stockman, who shall receive no compensation, and whose duty it shall be to devise ways and means whereby the public health and the live-stock interests of this State may best be protected from the ravages of contagious and infectious diseases, such as anthrax, tuberculosis, glanders, hog-cholera, etc.

Considerable discussion followed the presentation of the resolution, and the author was highly complimented for his ingenuity in drafting same.

Upon motion of Dr. Spencer, Sr., the resolution was unanimously adopted.

There being no further business to come before the meeting, on motion by Dr. Fox, the by-laws were suspended, and the meeting adjourned to meet in Sacramento on Tuesday, September 10, 1895.

On Thursday, June 13, 1895, the members of the California State Veterinary Medical Association assembled, by invitation of Dr. C. B. Orvis, at his infirmary at 258 Lafayette Street, Stockton, to participate in a clinical entertainment.

The first operation on the programme was the reduction of a ventral hernia by Dr. H. A. Spencer, assisted by Dr. Archibald. The operation was the radical one for the cure of a hernia, and was performed under strictly antiseptic and aseptic rules.

The next operation was performed by Dr. Lemke. This was the case of an old, long-standing fracture of the scapula at its upper third, from which a fistula resulted which necessitated the trephining of the scapula.

Other operations of minor importance followed, closing the entertainment, which was voted an entire success by the members present.

R. A. ARCHIBALD,
Secretary.

SCHUYLKILL VALLEY VETERINARY MEDICAL ASSOCIATION.

THE annual meeting of the Schuylkill Valley Veterinary Medical Association was held at the office of Drs. Sallade and Fegley, Pottsville, Pa., June 20th. The election of officers resulted in the re-election of President, S. G. Burkholder, Denver; Vice-President, W. H. Moyer, Elizabethville; Recording Secretary, U. G. Frederici, Tamaqua; Treasurer, F. H. McCarthy, Ashland. Otto Noack, of Reading, was elected Corresponding Secretary. Trustees, Otto Noack, Reading; Eli Snyder, Orwigsburg; and J. C. Faughnan, Shamokin.

After the reading of the minutes of the preceding meeting, N. K. Fegley, graduate of the National Veterinary College, and Bert Hagenbuch, graduate of the Veterinary Department, University of Pennsylvania, were proposed for membership and duly elected.

Among the papers read was one on "Meat and Milk Inspection," by Dr. Otto Noack. Dr. Sallade spoke on the importance to the profession of every veterinarian becoming an educator in his community; how important it was that all should combine their efforts in the direction of extolling their own importance; that by such efforts much had already been accomplished and legislation secured which placed the profession in a much better light than it was in when he entered it; and that it was the duty of every

young veterinarian who entered the field at the time when the path had been paved for him to labor intelligently to advance the profession. He advised him to join farmers', dairymen, and horseshoers' associations, and to take part in the discussions, which would afford him opportunities to display his superior knowledge, and thus advance steadily in the minds of his clients not only individual interest, but the interest of the profession at large, as well as the interest of the community, etc. He then read a paper on "Stable Hygiene," once produced at a farmers' institute, and it was agreed to devote due attention to this kind of work.

Drs. Sallade, Noack, and Frederici were appointed a committee to draft an address or memorial to all borough and city councils comprised in the territory occupied by the Society, asking for legislation on milk and meat inspection, and the importance of having our profession represented on the boards of health, etc.

Dr. Fegley was appointed essayist; subject, "Rabies."

Association to meet again in three months at same place, when committees will be announced by President Burkholder.

GERMAN VETERINARY MEDICAL ASSOCIATION OF NEW YORK AND VICINITY.

THE general and annual meeting of the Society was held Tuesday, April 16, 1894, at Dr. Sattler's Hospital, Newark.

The meeting was called to order by the President, Dr. L. R. Sattler, Newark. Upon roll-call the following gentlemen responded to their names: Drs. Turner, Ogden, Leis, Aurker, Wellner, Serling.

The minutes of the previous meeting were read and approved.

Several communications from absent members were read by the Secretary, expressing regrets for being unable to attend the meeting. The Secretary's report was read, which showed the Association to be in a flourishing condition numerically, and the roll-call showed a large increase in membership.

"Three years ago this Society was reorganized, and I was chosen as your Secretary, and you have seen fit at every election of officers since that time to honor me with a re-election; a trust that I have not only felt honored and pleased with, but one that I have faithfully and earnestly tried to fulfil. At every preceding report I have had encouraging and gratifying results of the condition of the Association to submit for your consideration; the record of the past year is no exception, and I am sure that you will not contradict me when I say that our Society ranks on equal plane with any veterinary organization in the States. We have good reason to congratulate ourselves on our success, and I am positive that not a single member of our Society to-day will say that he has not received some benefit from the pleasant and interesting meetings of this Association, as the Association's labors are not matters of dollars and cents or individual benefit, but are for the advancement of the veterinary profession and the protection of the public in the State of New York.

"During the past years our monthly meetings have been successful and well attended. Interesting papers were read and well received, and no

doubt brought forth good fruit. At the meeting on Tuesday, November 13, 1893, we were honored by the presence of our honorary member, Prof. Dr. A. Liautard, who, by his vast experience, rendered us great and valuable aid in the important work of making the meetings interesting. At that meeting he read a paper, 'Experimental Researches upon the Use of Malleine.'

"A deplorable fact to which I wish to call your attention is the death of two of our best members, Dr. A. Kuntz, the founder of this Association, and Dr. Robert Leis. Both were members in good standing. They will never be forgotten by us.

"Our financial condition will be reported by our Treasurer, Dr. J. Turner, and I trust that my accounts and vouchers, which are here for your inspection, will be found correct and satisfactory. In closing my report I wish to thank most sincerely the *JOURNAL OF COMPARATIVE MEDICINE* and the *Veterinary Review* for their very generous act of kindness to the Society for fully publishing all our notices and proceedings. Also to thank the members individually and the officers for their kind assistance and consideration during the last year, and for your kind attention to my present report."

Dr. Serling: I move the report be accepted and placed on file. Seconded by Dr. Leis. Carried.

Then the report read by the Treasurer showed the Association to be in a rather straitened condition financially.

The Chair declared now that nominations for officers for the ensuing year were in order. The election took place and all officers were re-elected unanimously. The Secretary was requested to announce the result of the election, which he did, as follows: *President*, Dr. L. R. Sattler, of Newark; *Vice-President*, Dr. Rudolph Leis, of Newark; *Secretary*, Dr. Hermann Wellner, of New York; *Treasurer*, Dr. Fred. Turner, of New York; *Board of Censors*, Drs. Serling, Simmon, and Ogden.

The newly-elected President upon taking his seat made a few appropriate and well-chosen remarks. He thanked the members for the great honor they had done him, and promised to do all in his power to make the meetings interesting and instructive, and in that way further the interests of the Association. He deplored the lack of attendance at the meetings, and said he would leave no stone unturned to bring the members together and have them work hand-in-hand for the advancement of the profession in this great and glorious State.

Then the motion that the Society should be incorporated was accepted.

Dr. Sattler performed then, with the assistance of the present members, an interesting operation, sectio-cæsaria, on a bull-terrier bitch, three years old. He brought forth six puppies, two alive and four dead ones. At the suggestion of Dr. Serling the two puppies were put in an incubator, and after three-quarters of an hour they were able to drink milk from the bottle.

Dr. Wellner reported a case of glanders, where a difference of opinion had been expressed by Dr. Corlies, of Newark; the lesions of the head were shown to be the results of glanders; the microscopical and bacteriological experiments, which he had done with the aid of Dr. Sattler, also corroborated the diagnosis.

There being no further business before the meeting it adjourned to meet at Hoboken, Myers's Hotel, May 14, 1895.

H. WELLNER, D.V.S.,
Secretary.

NEW AND USEFUL VETERINARY INSTRUMENTS.

REVIEWED BY DR. JAMES A. WAUGH.

Dr. L. L. Conkey, V.S., of Grand Rapids, Michigan, has invented a new and very useful trocar and canula tracheotomy tube which is a wonderful improvement and far superior to all similar instruments. It consists of a semi-oval trocar eight and one-half inches long, with a diamond-shaped head one and one-half inches long by one-half wide and five-sixteenths thick, surmounting a shoulder fitting the canula. The canula is six and three-quarter inches long, one-half by one-quarter inch in diameter, and has an oblong opening centrally in the broadest oval sides, one and one-half by one-half inch wide, to admit the air into the trachea. The instrument is held in position by two set screws fitting into two neatly capped washers that fit over the ends of the canula containing four holes in each end. It must be seen and used before being understood and appreciated by modern veterinarians, who will invariably praise it as a practical instrument. I have used it successfully after repeated failures and unfavorable results with the other styles of tracheotomy tubes, and this also has been the experience of my brother, William J. Waugh, V. S., Third Calvary, U. S. A.

Prof. Hughes, M.R.C.V.S., of Chicago Veterinary College, has invented an equine stomach trocar and canula for puncturing the horse's stomach in case of acute indigestion, with gaseous distention, especially where the gases fail to pass into the bowels. This trocar and canula is similar to the average British or French instruments, except that the canula is eleven and one-half inches long. It should always be used on the right side, about the same region as generally selected for the ordinary operation. I have not yet had an opportunity to use this instrument, but will report results in the future. I was chagrined lately at losing a valuable and fast trotting stallion, besides three draught-horses, which suffered with acute indigestion complicated with accumulation of gas in the stomach. I tapped one horse sixteen times and struck a pocket of gas every time. I tapped a fine and valuable hearse horse six times without success, and the seventh proved successful and removed large quantities of gases and saved the animal's life. I always use anti-septics and clip the hair off a spot when I use a lance to cut the

skin before using the trocar and canula, and by these means prevent the formation of abscesses.

NEW INVENTIONS.

AN automatic watering-trough.

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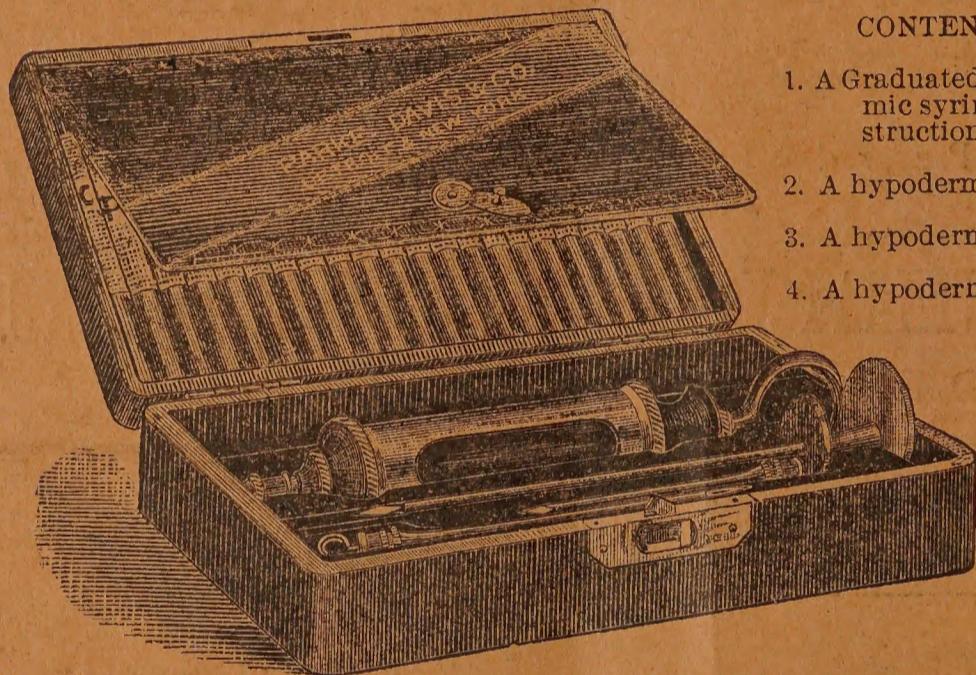
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